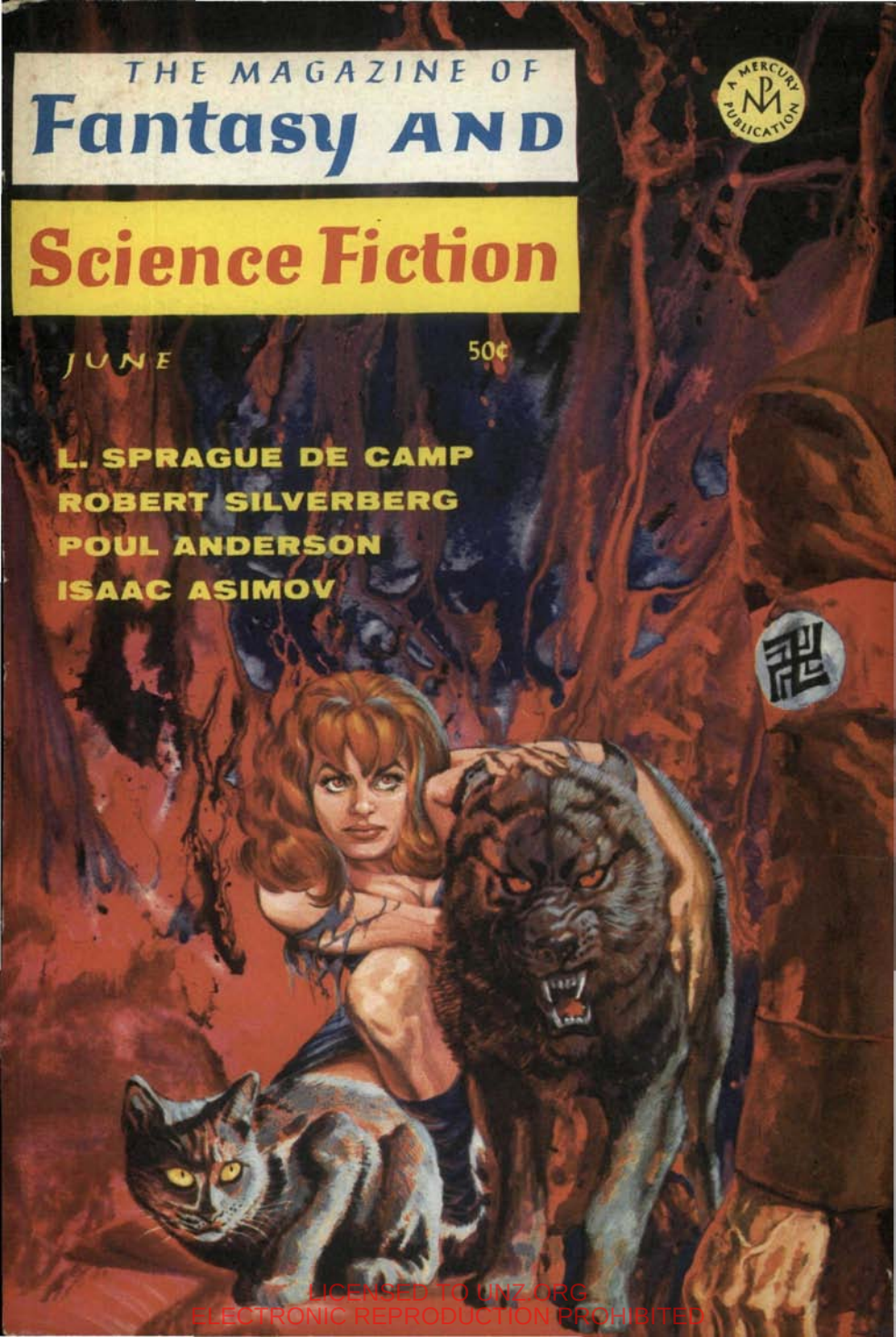

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Fantasy and Science Fiction

JUNE

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This story is about Tom Two Ribbons, a biologist-spaceman of American Indian descent, who is an uneasy member of an expedition that is eliminating a "pest" on an alien planet. It has the strong plotting and convincing background that you would expect from a Robert Silverberg story; it also has a constantly shifting viewpoint which reflects the reactions of Tom and the other members of the expedition. Because of the rhythm and reason behind each shift, the story is involving in the best kind of way. It is probably something of a departure for Mr. Silverberg; we think you'll agree that it is a successful and rewarding one.

SUNDANCE

by Robert Silverberg

TODAY YOU LIQUIDATED ABOUT 50,000 Eaters in Sector A, and now you are spending an uneasy night. You and Herndon flew east at dawn, with the green-gold sunrise at your backs, and sprayed the neural pellets over a thousand hectares along the Forked River. You flew on into the prairie beyond the river, where the Eaters have already been wiped out, and had lunch sprawled on that thick, soft carpet of grass where the first settlement is expected to rise. Herndon picked some juiceflowers, and you enjoyed half an hour of mild hallucinations. Then, as you headed toward the copter to begin an afternoon of further pellet spraying, he said suddenly, "Tom, how would you feel about this if it turned out that the Eaters weren't just animal pests? That they were *people*, say, with a language and rites and a history and all?"

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You thought of how it had been for your own people.

"They aren't," you said.

"Suppose they were. Suppose the Eaters—"

"They aren't. Drop it."

Herndon has this streak of cruelty in him that leads him to ask such questions. He goes for the vulnerabilities; it amuses him. All night now his casual remark has echoed in your mind. Suppose the Eaters . . . Suppose the Eaters . . . Suppose . . . Suppose . . .

You sleep for a while, and dream, and in your dreams you swim through rivers of blood.

Foolishness. A feverish fantasy. You know how important it is to exterminate the Eaters fast, before the settlers get here. They're just animals, and not even harmless animals at that; ecology-wreckers is what they are, devourers of oxygen-liberating plants, and they have to go. A few have been saved for zoological study. The rest must be destroyed. Ritual extirpation of undesirable beings, the old, old story. But let's not complicate our job with moral qualms, you tell yourself. Let's not dream of rivers of blood.

The Eaters don't even *have* blood, none that could flow in rivers, anyway. What they have is, well, a kind of lymph that permeates every tissue and transmits nourishment along the interfaces. Waste products go out the same way, osmotically. In terms of process, it's structurally analogous to your own kind of circulatory system, except there's no network of blood vessels hooked to a master pump. The life-stuff just oozes through their bodies, as though they were amoebas or sponges or some other low-phylum form. Yet they're definitely high-phylum in nervous system, digestive setup, limb-and-organ template, etc. Odd, you think. The thing about aliens is that they're alien, you tell yourself, not for the first time.

The beauty of their biology for you and your companions is that it lets you exterminate them so neatly.

You fly over the grazing grounds and drop the neural pellets. The Eaters find and ingest them. Within an hour the poison has reached all sectors of the body. Life ceases; a rapid breakdown of cellular matter follows, the Eater literally falling apart molecule by molecule the instant that nutrition is cut off; the lymph-like stuff works like acid; a universal lysis occurs; flesh and even the bones, which are cartilaginous, dissolve. In two hours, a puddle on the ground. In four, nothing at all left. Considering how many millions of Eaters you've scheduled for extermination here, it's sweet of the bodies to be self-disposing. Otherwise what a charnel house this world would become!

Suppose the Eaters . . .

Damn Herndon. You almost

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feel like getting a memory-editing in the morning. Scrape his stupid speculations out of your head. If you dared. If you dared.

In the morning he does not dare. Memory-editing frightens him; he will try to shake free of his new-found guilt without it. The Eaters, he explains to himself, are mindless herbivores, the unfortunate victims of human expansionism, but not really deserving of passionate defense. Their extermination is not tragic; it's just too bad. If Earthmen are to have this world, the Eaters must relinquish it. There's a difference, he tells himself, between the elimination of the Plains Indians from the American prairie in the nineteenth century and the destruction of the bison on that same prairie. One feels a little wistful about the slaughter of the thundering herds; one regrets the butchering of millions of the noble brown woolly beasts, yes. But one feels outrage, not mere wistful regret, at what was done to the Sioux. There's a difference. Reserve your passions for the proper cause.

He walks from his bubble at the edge of the camp toward the center of things. The flagstone path is moist and glistening. The morning fog has not yet lifted, and every tree is bowed, the long, notched leaves heavy with droplets of water. He pauses, crouching, to observe a spider-analog spinning its asymmetrical web. As he watches, a small amphibian, delicately shaded turquoise, glides as inconspicuously as possible over the mossy ground. Not inconspicuously enough; he gently lifts the little creature and puts it on the back of his hand. The gills flutter in anguish, and the amphibian's sides quiver. Slowly, cunningly, its color changes until it matches the coppery tone of the hand. The camouflage is excellent. He lowers his hand and the amphibian scurries into a puddle. He walks on.

He is forty years old, shorter than most of the other members of the expedition, with wide shoulders, a heavy chest, dark glossy hair, a blunt, spreading nose. He is a biologist. This is his third career, for he has failed as an anthropologist and as a developer of real estate. His name is Tom Two Ribbons. He has been married twice but has had no children. His great-grandfather died of alcoholism; his grandfather was addicted to hallucinogens; his father had compulsively visited cheap memory-editing parlors. Tom Two Ribbons is conscious that he is failing a family tradition, but he has not yet found his own mode of self-destruction.

In the main building he discovers Herndon, Julia, Ellen, Schwartz, Chang, Michaelson,

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and Nichols. They are eating breakfast; the others are already at work. Ellen rises and comes to him and kisses him. Her short soft yellow hair tickles his cheeks. "I love you," she whispers. She has spent the night in Michaelson's bubble. "I love you," he tells her, and draws a quick vertical line of affection between her small pale breasts. He winks at Michaelson, who nods, touches the tips of two fingers to his lips, and blows them a kiss. We are all good friends here, Tom Two Ribbons thinks.

"Who drops pellets today?" he asks.

"Mike and Chang," says Julia. "Sector C."

Schwartz says, "Eleven more days and we ought to have the whole peninsula clear. Then we can move inland."

"If our pellet supply holds up," Chang points out.

Herndon says, "Did you sleep well, Tom?"

"No," says Tom. He sits down and taps out his breakfast requisition. In the west, the fog is beginning to burn off the mountains. Something throbs in the back of his neck. He has been on this world nine weeks now, and in that time it has undergone its only change of season, shading from dry weather to foggy. The mists will remain for many months. Before the plains parch again, the Eaters will be gone and the settlers will begin to arrive. His food slides down the chute and he seizes it. Ellen sits beside him. She is a little more than half his age; this is her first voyage; she is their keeper of records, but she is also skilled at editing. "You look troubled," Ellen tells him. "Can I help you?"

"No. Thank you."

"I hate it when you get gloomy."

"It's a racial trait," says Tom Two Ribbons.

"I doubt that very much."

"The truth is that maybe my personality reconstruct is wearing thin. The trauma level was so close to the surface. I'm just a walking veneer, you know."

Ellen laughs prettily. She wears only a sprayon halfwrap. Her skin looks damp; she and Michaelson have had a swim at dawn. Tom Two Ribbons is thinking of asking her to marry him, when this job is over. He has not been married since the collapse of the real estate business. The therapist suggested divorce as part of the reconstruct. He sometimes wonders where Terry has gone and whom she lives with now. Ellen says, "You seem pretty stable to me, Tom."

"Thank you," he says. She is young. She does not know.

"If it's just a passing gloom I can edit it out in one quick snip."

"Thank you," he says. "No."

"I forgot. You don't like editing."

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"My father—"

"Yes?"

"In fifty years he pared himself down to a thread," Tom Two Ribbons says. "He had his ancestors edited away, his whole heritage, his religion, his wife, his sons, finally his name. Then he sat and smiled all day. Thank you, no editing."

"Where are you working today?" Ellen asks.

"In the compound, running tests."

"Want company? I'm off all morning."

"Thank you, no," he says, too quickly. She looks hurt. He tries to remedy his unintended cruelty by touching her arm lightly and saying, "Maybe this afternoon, all right? I need to commune a while. Yes?"

"Yes," she says, and smiles, and shapes a kiss with her lips.

After breakfast he goes to the compound. It covers a thousand hectares east of the base; they have bordered it with neural-field projectors at intervals of eighty meters, and this is a sufficient fence to keep the captive population of two hundred Eaters from straying. When all the others have been exterminated, this study group will remain. At the southwest corner of the compound stands a lab bubble from which the experiments are run: metabolic, psychological, physiological, ecological. A stream crosses the compound diagonally. There is a low ridge of grassy hills at its eastern edge. Five distinct copses of tightly clustered knifeblade trees are separated by patches of dense savanna. Sheltered beneath the grass are the oxygen-plants, almost completely hidden except for the photosynthetic spikes that jut to heights of three or four meters at regular intervals, and for the lemon-colored respiratory bodies, chest high, that make the grassland sweet and dizzying with exhaled gases. Through the fields move the Eaters in a straggling herd, nibbling delicately at the respiratory bodies.

Tom Two Ribbons spies the herd beside the stream and goes toward it. He stumbles over an oxygen-plant hidden in the grass but deftly recovers his balance and, seizing the puckered orifice of the respiratory body, inhales deeply. His despair lifts. He approaches the Eaters. They are spherical, bulky, slow-moving creatures, covered by masses of coarse orange fur. Saucer-like eyes protrude above narrow rubbery lips. Their legs are thin and scaly, like a chicken's, and their arms are short and held close to their bodies. They regard him with bland lack of curiosity. "Good morning, brothers!" is the way he greets them this time, and he wonders why.

I noticed something strange to-

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day. Perhaps I simply sniffed too much oxygen in the fields; maybe I was succumbing to a suggestion Herndon planted; or possibly it's the family masochism cropping out. But while I was observing the Eaters in the compound, it seemed to me, for the first time, that they were behaving intelligently, that they were functioning in a ritualized way.

I followed them around for three hours. During that time they uncovered half a dozen outcroppings of oxygen-plants. In each case they went through a stylized pattern of action before starting to munch. They:

Formed a straggly circle around the plants.

Looked toward the sun.

Looked toward their neighbors on left and right around the circle.

Made fuzzy neighing sounds *only* after having done the foregoing.

Looked toward the sun again.

Moved in and ate.

If this wasn't a prayer of thanksgiving, a saying of grace, then what was it? And if they're advanced enough spiritually to say grace, are we not therefore committing genocide here? Do chimpanzees say grace? Christ, we wouldn't even wipe out chimps the way we're cleaning out the Eaters! Of course, chimps don't interfere with human crops, and some kind of coexistence would be possible, whereas Eaters and human agriculturalists simply can't function on the same planet. Nevertheless, there's a moral issue here. The liquidation effort is predicated on the assumption that the intelligence level of the Eaters is about on a par with that of oysters, or, at best, sheep. Our consciences stay clear because our poison is quick and painless and because the Eaters thoughtfully dissolve upon dying, sparing us the mess of incinerating millions of corpses. But if they pray—

I won't say anything to the others just yet. I want more evidence, hard, objective. Films, tapes, record cubes. Then we'll see. What if I can show that we're exterminating intelligent beings? My family knows a little about genocide, after all, having been on the receiving end just a few centuries back. I doubt that I could halt what's going on here. But at the very least I could withdraw from the operation. Head back to Earth and stir up public outcries.

I hope I'm imagining this.

I'm not imagining a thing. They gather in circles; they look to the sun; they neigh and pray. They're only balls of jelly on chicken-legs, but they give thanks for their food. Those big round eyes now seem to stare accusingly at me. Our tame herd here knows what's going on: that we have descended from the stars to eradicate their kind, and that they alone

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will be spared. They have no way of fighting back or even of communicating their displeasure, but they *know*. And hate us. Jesus, we have killed two million of them since we got here, and in a metaphorical way I'm stained with blood, and what will I do, what can I do?

I must move very carefully, or I'll end up drugged and edited.

I can't let myself seem like a crank, a quack, an agitator. I can't stand up and *denounce!* I have to find allies. Herndon, first. He surely is on to the truth; he's the one who nudged *me* to it, that day we dropped pellets. And I thought he was merely being vicious in his usual way!

I'll talk to him tonight.

He says, "I've been thinking about that suggestion you made. About the Eaters. Perhaps we haven't made sufficiently close psychological studies. I mean, if they really *are* intelligent—"

Herndon blinks. He is a tall man with glossy dark hair, a heavy beard, sharp cheekbones. "Who says they are, Tom?"

"You did. On the far side of the Forked River, you said—"

"It was just a speculative hypothesis. To make conversation."

"No, I think it was more than that. You really believed it."

Herndon looks troubled. "Tom, I don't know what you're trying to start, but don't start it. If I for a moment believed we were killing intelligent creatures, I'd run for an editor so fast I'd start an implosion wave."

"Why did you ask me that thing, then?" Tom Two Ribbons says.

"Idle chatter."

"Amusing yourself by kindling guilts in somebody else? You're a bastard, Herndon. I mean it."

"Well, look, Tom, if I had any idea that you'd get so worked up about a hypothetical suggestion —" Herndon shakes his head. "The Eaters aren't intelligent beings. Obviously. Otherwise we wouldn't be under orders to liquidate them."

"Obviously," says Tom Two Ribbons.

Ellen said, "No, I don't know what Tom's up to. But I'm pretty sure he needs a rest. It's only a year and a half since his personality reconstruct, and he had a pretty bad breakdown back then."

Michaelson consulted a chart. "He's refused three times in a row to make his pellet-dropping run. Claiming he can't take time away from his research. Hell, we can fill in for him, but it's the idea that he's ducking chores that bothers me."

"What kind of research is he doing?" Nichols wanted to know.

"Not biological," said Julia. "He's with the Eaters in the compound all the time, but I don't

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see him making any tests on them. He just watches them."

"And talks to them," Chang observed.

"And talks, yes," Julia said.

"About what?" Nichols asked.

"Who knows?"

Everyone looked at Ellen. "You're closest to him," Michaelson said. "Can't you bring him out of it?"

"I've got to know what he's in, first," Ellen said. "He isn't saying a thing."

You know that you must be very careful, for they outnumber you, and their concern for your mental welfare can be deadly. Already they realize you are disturbed, and Ellen has begun to probe for the source of the disturbance. Last night you lay in her arms and she questioned you, obliquely, skillfully, and you knew what she is trying to find out. When the moons appeared she suggested that you and she stroll in the compound, among the sleeping Eaters. You declined, but she sees that you have become involved with the creatures.

You have done probing of your own—subtly, you hope. And you are aware that you can do nothing to save the Eaters. An irrevocable commitment has been made. It is 1876 all over again; these are the bison, these are the Sioux, and they must be destroyed, for the railroad is on its way. If you speak out here, your friends will calm you and pacify you and edit you, for they do not see what you see. If you return to Earth to agitate, you will be mocked and recommended for another reconstruct. You can do nothing. You can do nothing.

You cannot save, but perhaps you can record.

Go out into the prairie. Live with the Eaters; make yourself their friend; learn their ways. Set it down, a full account of their culture, so that at least that much will not be lost. You know the techniques of field anthropology. As was done for your people in the old days, do now for the Eaters.

He finds Michaelson. "Can you spare me for a few weeks?" he asks.

"Spare you, Tom? What do you mean?"

"I've got some field studies to do. I'd like to leave the base and work with Eaters in the wild."

"What's wrong with the ones in the compound?"

"It's the last chance with wild ones, Mike. I've got to go."

"Alone, or with Ellen?"

"Alone."

Michaelson nods slowly. "All right, Tom. Whatever you want. Go. I won't hold you here."

I dance in the prairie under the green-gold sun. About me the Eat-

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ers gather. I am stripped; sweat makes my skin glisten; my heart pounds. I talk to them with my feet, and they understand.

They understand.

They have a language of soft sounds. They have a god. They know love and awe and rapture. They have rites. They have names. They have a history. Of all this I am convinced.

I dance on thick grass.

How can I reach them? With my feet, with my hands, with my grunts, with my sweat. They gather by the hundreds, by the thousands, and I dance. I must not stop. They cluster about me and make their sounds. I am a conduit for strange forces. My great-grandfather should see me now! Sitting on his porch in Wyoming, the firewater in his hand, his brain rotting—see me now, old one! See the dance of Tom Two Ribbons! I talk to these strange ones with my feet under a sun that is the wrong color. I dance. I dance.

"Listen to me," I say. "I am your friend, I alone, the only one you can trust. Trust me, talk to me, teach me. Let me preserve your ways, for soon the destruction will come."

I dance, and the sun climbs, and the Eaters murmur.

There is the chief. I dance toward him, back, toward, I bow, I point to the sun, I imagine the being that lives in that ball of flame, I imitate the sounds of these people, I kneel, I rise, I dance. Tom Two Ribbons dances for you.

I summon skills my ancestors forgot. I feel the power flowing in me. As they danced in the days of the bison, I dance now, beyond the Forked River.

I dance, and now the Eaters dance too. Slowly, uncertainly, they move toward me, they shift their weight, lift leg and leg, sway about. "Yes, like that!" I cry. "Dance!"

We dance together as the sun reaches noon height.

Now their eyes are no longer accusing. I see warmth and kinship. I am their brother, their red-skinned tribesman, he who dances with them. No longer do they seem clumsy to me. There is a strange ponderous grace in their movements. They dance. They dance. They caper about me. Closer, closer, closer!

We move in holy frenzy.

They sing, now, a blurred hymn of joy. They throw forth their arms, unclench their little claws. In unison they shift weight, left foot forward, right, left, right. Dance, brothers, dance, dance, dance! They press against me. Their flesh quivers; their smell is a sweet one. They gently thrust me across the field, to a part of the meadow where the grass is deep and untrampled. Still dancing, we seek for the oxygen-plants,

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and find clumps of them beneath the grass, and they make their prayer and seize them with their awkward arms, separating the respiratory bodies from the photosynthetic spikes. The plants, in anguish, release floods of oxygen. My mind reels. I laugh and sing. The Eaters are nibbling the lemon-colored perforated globes, nibbling the stalks as well. They thrust their plants at me. It is a religious ceremony, I see. Take from us, eat with us, join with us, this is the body, this is the blood, take, eat, join. I bend forward and put a lemon-colored globe to my lips. I do not bite; I nibble, as they do, my teeth slicing away the skin of the globe. Juice spurts into my mouth, while oxygen drenches my nostrils. The Eaters sing hosannas. I should be in full paint for this, paint of my forefathers, feathers too, meeting their religion in the regalia of what should have been mine. Take, eat, join. The juice of the oxygen-plant flows in my veins. I embrace my brothers. I sing, and as my voice leaves my lips it becomes an arch that glistens like new steel, and I pitch my song lower, and the arch turns to tarnished silver. The Eaters crowd close. The scent of their bodies is fiery red to me. Their soft cries are puffs of steam. The sun is very warm; its rays are tiny jagged pings of puckered sound, close to the top of my range of hearing, plink! plink! plink! The thick grass hums to me, deep and rich, and the wind hurls points of flame along the prairie. I devour another oxygen-plant, and then a third. My brothers laugh and shout. They tell me of their gods, the god of warmth, the god of food, the god of pleasure, the god of death, the god of holiness, the god of wrongness, and the others. They recite for me the names of their kings, and I hear their voices as splashes of green mold on the clean sheet of the sky. They instruct me in their holy rites. I must remember this, I tell myself, for when it is gone it will never come again. I continue to dance. They continue to dance. The color of the hills becomes rough and coarse, like abrasive gas. Take, eat, join. Dance. They are so gentle!

I hear the drone of the copter, suddenly.

It hovers far overhead. I am unable to see who flies in it. "No," I scream. "Not here! Not these people! Listen to me! This is Tom Two Ribbons! Can't you hear me? I'm doing a field study here! You have no right—!"

My voice makes spirals of blue moss edged with red sparks. They drift upward and are scattered by the breeze.

I yell, I shout, I bellow. I dance and shake my fists. From the wings of the copter the jointed arms of the pellet-distributors unfold. The gleaming spigots extend

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and whirl. The neural pellets rain down into the meadow, each tracing a blazing track that lingers in the sky. The sound of the copter becomes a furry carpet stretching to the horizon, and my shrill voice is lost in it.

The Eaters drift away from me, seeking the pellets, scratching at the roots of the grass to find them. Still dancing, I leap into their midst, striking the pellets from their hands, hurling them into the stream, crushing them to powder. The Eaters growl black needles at me. They turn away and search for more pellets. The copter turns and flies off, leaving a trail of dense oily sound. My brothers are gobbling the pellets eagerly.

There is no way to prevent it.

Joy consumes them and they topple and lie still. Occasionally a limb twitches; then even this stops. They begin to dissolve. Thousands of them melt on the prairie, sinking into shapelessness, losing their spherical forms, flattening, ebbing into the ground. The bonds of the molecules will no longer hold. It is the twilight of protoplasm. They perish. They vanish. For hours I walk the prairie. Now I inhale oxygen; now I eat a lemon-colored globe. Sunset begins with the ringing of leaden chimes. Black clouds make brazen trumpet calls in the east and the deepening wind is a swirl of coaly bristles. Silence comes. Night falls. I dance. I am alone.

The copter comes again, and they find you, and you do not resist as they gather you in. You are beyond bitterness. Quietly you explain what you have done and what you have learned, and why it is wrong to exterminate these people. You describe the plant you have eaten and the way it affects your senses, and as you talk of the blessed synesthesia, the texture of the wind and the sound of the clouds and the timbre of the sunlight, they nod and smile and tell you not to worry, that everything will be all right soon, and they touch something cold to your forearm, so cold that it is almost into the ultraviolet where you cannot see it, and there is a whir and a buzz and the deintoxicant sinks into your vein and soon the ecstasy drains away, leaving only the exhaustion and the grief.

He says, "We never learn a thing, do we? We export all our horrors to the stars. Wipe out the Armenians, wipe out the Jews, wipe out the Tasmanians, wipe out the Indians, wipe out everyone who's in the way, and then come out here and do the same damned murderous thing. You weren't with me out there. You didn't dance with them. You didn't see what a rich, complex culture the Eaters have. Let me tell you about their tribal structure. It's dense: seven levels of matrimonial relationships, to begin

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with, and an exogamy factor that requires—"

Softly Ellen says, "Tom, darling, nobody's going to harm the Eaters."

"And the religion," he goes on. "Nine gods, each one an aspect of *the* god. Holiness and wrongness both worshiped. They have hymns, prayers, a theology. And we, the emissaries of the god of wrongness—"

"We're not exterminating them," Michaelson says. "Won't you understand that, Tom? This is all a fantasy of yours. You've been under the influence of drugs, but now we're clearing you out. You'll be clean in a little while. You'll have perspective again."

"A fantasy?" he says bitterly. "A drug dream? I stood out in the prairie and saw you drop pellets. And I watched them die and melt away. I didn't dream that."

"How can we convince you?" Chang asks earnestly. "What will make you believe? Shall we fly over the Eater country with you and show you how many millions there are?"

"But how many millions have been destroyed?" he demands.

They insist that he is wrong. Ellen tells him again that no one has ever desired to harm the Eaters. "This is a scientific expedition, Tom. We're here to *study* them. It's a violation of all we stand for to injure intelligent lifeforms."

"You admit that they're intelligent?"

"Of course. That's never been in doubt."

"Then why drop the pellets?" he asks. "Why slaughter them?"

"None of that has happened, Tom," Ellen says. She takes his hand between her cool palms. "Believe us. Believe us."

He says bitterly, "If you want me to believe you, why don't you do the job properly? Get out the editing machine and go to work on me. You can't simply *talk* me into rejecting the evidence of my own eyes."

"You were under drugs all the time," Michaelson says.

"I've never taken drugs! Except for what I ate in the meadow, when I danced—and that came after I had watched the massacre going on for weeks and weeks. Are you saying that it's a retroactive delusion?"

"No, Tom," Schwartz says. "You've had this delusion all along. It's part of your therapy, your reconstruct. You came here programmed with it."

"Impossible," he says.

Ellen kisses his fevered forehead. "It was done to reconcile you to mankind, you see. You had this terrible resentment of the displacement of your people in the nineteenth century. You were unable to forgive the industrial society for scattering the Sioux, and you were terribly full of hate.

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Your therapist thought that if you could be made to participate in an imaginary modern extermination, if you could come to see it as a necessary operation, you'd be purged of your resentment and able to take your place in society as—"

He thrusts her away. "Don't talk idiocy! If you knew the first thing about reconstruct therapy, you'd realize that no reputable therapist could be so shallow. There are no one-to-one correlations in reconstructs. No, don't touch me. Keep away. Keep away."

He will not let them persuade him that this is merely a drug-born dream. It is no fantasy, he tells himself, and it is no therapy. He rises. He goes out. They do not follow him. He takes a copter and seeks his brothers.

Again I dance. The sun is much hotter today. The Eaters are more numerous. Today I wear paint, today I wear feathers. My body shines with my sweat. They dance with me, and they have a frenzy in them that I have never seen before. We pound the trampled meadow with our feet. We clutch for the sun with our hands. We sing, we shout, we cry. We will dance until we fall.

This is no fantasy. These people are real, and they are intelligent, and they are doomed. This I know.

We dance. Despite the doom, we dance.

My great-grandfather comes and dances with us. He too is real. His nose is like a hawk's, not blunt like mine, and he wears the big headdress, and his muscles are like cords under his brown skin. He sings, he shouts, he cries.

Others of my family join us.

We eat the oxygen-plants together. We embrace the Eaters. We know, all of us, what it is to be hunted.

The clouds make music and the wind takes on texture and the sun's warmth has color.

We dance. We dance. Our limbs know no weariness.

The sun grows and fills the whole sky, and I see no Eaters now, only my own people, my father's fathers across the centuries, thousands of gleaming skins, thousands of hawk's noses, and we eat the plants, and we find sharp sticks and thrust them into our flesh, and the sweet blood flows and dries in the blaze of the sun, and we dance, and we dance, and some of us fall from weariness, and we dance, and the prairie is a sea of bobbing headdresses, an ocean of feathers, and we dance, and my heart makes thunder, and my knees become water, and the sun's fire engulfs me, and I dance, and I fall, and I dance, and I fall, and I fall, and I fall.

Again they find you and bring

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you back. They give you the cool snout on your arm to take the oxygen-plant drug from your veins, and then they give you something else so you will rest. You rest and you are very calm. Ellen kisses you and you stroke her soft skin, and then the others come in and they talk to you, saying soothing things, but you do not listen, for you are searching for realities. It is not an easy search. It is like falling through many trapdoors, looking for the one room whose floor is not hinged. Everything that has happened on this planet is your therapy, you tell yourself, designed to reconcile an embittered aborigine to the white man's conquest; nothing is really being exterminated here. You reject that and fall through and realize that this must be the therapy of your friends; they carry the weight of accumulated centuries of guilts and have come here to shed that load, and you are here to ease them of their burden, to draw their sins into yourself and give them forgiveness. Again you fall through, and see that the Eaters are mere animals who threaten the ecology and must be removed; the culture you imagined for them is your hallucination, kindled out of old churnings. You try to withdraw your objections to this necessary extermination, but you fall through again and discover that there is no extermination except in your mind, which is troubled and disordered by your obsession with the crime against your ancestors, and you sit up, for you wish to apologize to these friends of yours, these innocent scientists whom you have called murderers. And you fall through.

In this issue . . . coming next month

The absence of a books column in the past two issues is a temporary state of affairs, and *Books* will be resumed next month. Its absence is, we trust, at least partially compensated for by the extra pages devoted to fiction, including the second and final installment of Poul Anderson's exciting new novel, which begins on page 54.

Next month's Special Fritz Leiber issue will include a brand-new novella by Mr. Leiber, a biographical essay by Judith Merril, a bibliography, and a special cover by Emsh. The July issue is sure to be a collector's item; watch for it on your newsstands, on sale May 29.

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Dr. Salmon was a good dentist, the best, they truthfully said, in Brinkstone. It was unusual for him to cause even a twinge of pain in a patient, however the extraction on Colonel Tankerville-Browse had not gone well. He had hurt the colonel, hurt him badly and for no apparent reason—excepting an astonishing one that lay more than 600 years in the past.

PULL DEVIL, PULL BAKER!

by Michael Harrison

HE WAS A BIG MAN, WELL OVER six feet, with hair which had once been golden and which was still bright yellow. He had a red face and whitish, clumsy hands, and his red ears stuck out a little too much for Dr. Salmon's fastidious taste. But (the dentist reflected) if his new patient had some of the marks of a Saxon peasant, he had all the arrogant bearing of a Plantagenet aristocrat. The small, light blue eyes gazed at the dentist with no hostility, not even with condescension; yet—Dr. Salmon sighed to himself as he advanced to meet the big man—both the hostility and, even worse, the condescension were there, awaiting only the right trigger-word to bring them dangerously and terrifyingly out of hiding.

Since he had lost his wife to a man as big as this newcomer, Dr. Salmon had developed the habit of talking to himself: silently, when there were other people about, as now; aloud, when he fancied himself alone. He was a good dentist; the best, they truthfully said, in Brinkstone, which is a small, "select" country-town made into one of the richest in England by the number of wealthy, retired folk who have bought property there.

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Dr. Salmon's services were expensive, even in a district where there was no such thing as a dentist or other medical practitioner with a "National Health" practice. There had been times, indeed, when Dr. Salmon had given his services for nothing, as, doubtless, there would be times again; but working for nothing (Dr. Salmon hated the phrase, "for charity," as smacking of the condescension that he both feared and despised) was different from working as a Government servant —which, in Dr. Salmon's view, was all that the "National Health" dentists could now call themselves.

Dr. Salmon's slim, dark, young and pretty receptionist-secretary-nurse took the newcomer's hat and coat, and disappeared with them into a door which led off the surgery.

"Please be seated," Dr. Salmon invited, indicating a dental chair so expensively modern that it looked like the pilot's chair of an interstellar spaceship. Dr. Salmon noted, not without satisfaction, that the big man looked at it with respect; not understanding the function of any of its many attachments, but instinctively aware that what he was seeing was of the latest design, and proportionately costly. However, the big man said nothing as he carefully lowered himself into the chair, whilst Dr. Salmon pneumatically adjusted seat, back and footrest to suit the patient's comfort.

The slim, dark secretary-nurse had returned, and now stood by the chair with the register in her hand.

"It's Mr. Tankerville-Browse, isn't it?" Dr. Salmon asked.

The big man, who had lost none of his impressive bulk by lying back in the dentist's chair, nodded.

"Better put the hyphen in," he said, as he saw that the girl had begun to write. "Tankerville." He spelled it out. "Browse." He spelled that out, too. "Originally," he added, without a trace of boasting or self-consciousness, "it used to be De Braose de Tankerville. Tankerville, in France. Don't like hyphenated names, meself, but the family like to . . . well, they don't like to forget the 'Tankerville' bit, don't-yer-know."

"Yes," said Dr. Salmon, who had a feeling that this Mr. Tankerville-Browse wouldn't take much interest in the length of Dr. Salmon's not inconsiderable pedigree. "If you will give my receptionist your address, we'll see what's the trouble with your teeth."

"Oh yes, of course." The patient gave the address. It was, as Dr. Salmon had known it would be, in one of the most expensive parts of Brinkstone. "But . . . well it's *Colonel* Tankerville-Browse, by the way. Just for the record."

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"Well, Colonel," said Dr. Salmon, as the receptionist took the register back to her desk and returned to take up her stand, with opened notebook, by the chair, "suppose we have a look in your mouth. Open, please. Perhaps you'd rinse first?"

Colonel Tankerville-Browse rinsed, spitting the rose-colored water into the swirling vortex of the glass bowl. But he seemed in no hurry to compose himself for the doctor's examination.

His gaze wandered around the walls of the bright, spotlessly clean surgery, noting the gold-framed diplomas on the walls, the bowls of flowers on the receptionist's desk, a framed engraving on the wall. . . .

"Hello!" said the colonel, sitting up to give the engraving a more careful glance. "Who's that?"

"It's St. Philomena," said Dr. Salmon. "St. Philomena is the patron saint of dentists."

"But . . ." The colonel broke off, not because what he had been about to say would have embarrassed him but because he knew that what he had been about to say might have been thought offensive.

"Yes," said Dr. Salmon, answering the unspoken question, "I am Jewish. But St. Philomena is the patron saint of dentists the world over—of all dentists, irrespective of religion, race or color."

"Why . . . ? I mean, why St. Philomena?"

"She was a Roman lady," said Dr. Salmon, somewhat primly, "who refused to sacrifice to the pagan gods of Rome. To force her to do so, they threatened to pull out her teeth. She would not give in. They did pull her teeth out. And she still never consented to sacrifice to the pagan gods. So . . . having pulled out all her teeth, the Roman soldiers chopped off her head."

The colonel laughed. (He has teeth like a great Norman drayhorse! Dr. Salmon reflected, rewarming his little mirror.) "Pulled all her choppers out, did they, be God? Well, they wouldn't have done that to me, can tell yer! By God, they wouldn't! First sign of those damned pincer-things you're goin' ter wave at me, and I'd have shouted, 'Hey, there! Where's the damned incense, so I can chuck a handful on the sacred fire!' "

"Oh, Colonel, I don't believe you," said Dr. Salmon, trying to get at his patient's mouth. Mrs. Forsythe-Browne was waiting, and she, as Dr. Salmon knew, would make the most dangerous sort of ex-patient. At all costs, Mrs. Forsythe-Browne must not be kept waiting, even for a Regular Army colonel. "Now, sir, suppose we have a look, and see what the trouble is . . ."

Dr. Salmon began rapidly to read off, for his receptionist's rec-

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ord, the facts of the colonel's rather neglected oral hygiene. He busied himself with his delicate probing and then took X-ray photographs. At last he said:

"The condition of your teeth, Colonel, is not bad. Indeed, at your age, the condition is more than fair. Unless something quite unsuspected turns up, I think I may say that we can get your mouth into excellent order. However, that third right upper molar . . ."

"Bad . . . ?"

"There's nothing I can do. I dislike very much having to extract, but its condition is too far gone that I could hope to preserve it. I regret that it must come out, Colonel."

"Pity. That's one of the choppers I use to chew with."

"That's what everyone's molars are for, Colonel. But we can fix you up with a fine artificial one. Now, Colonel, shall I do the extraction now, or shall Miss Pereira make a further appointment?"

"*What!* A further appointment? What in God's name for? Won't hurt, will it?"

"I may hurt a little, Colonel. I'll try *not* to hurt, of course, but . . ."

"Well, suppose you do. Anyway, I bet you don't. General Harding—he sent me here, you know—said you were the best damned dentist he'd ever struck in his life. Anyway, old lad, you just go ahead and deaden it a bit, and get the damned thing out. 'An empty house is better than a bad tenant,' eh? Ha-ha! Well, carry on! I'm ready!"

Dr. Salmon had not earned his reputation in Brinkstone for nothing. His delicate hands gently anesthetized the colonel's mouth, and Dr. Salmon would have sworn that when the time came to extract the great long-rooted molar, the colonel would not have felt a twinge of pain.

Yet there was pain. Pain so intense that the big man, despite the training of caste and education, could not repress a single agonized "Garhhh . . . !"

"My poor sir," said the tenderhearted Dr. Salmon, withdrawing his forceps. "I am so sorry. I'm hurting you. Shall we try to deaden the pain a little more . . . ?"

"No," said the colonel, through numbed lips, "get it done with. Can't be much more now. Sorry I grunted like that. Wasn't your fault you hurt a bit."

"No, no, of course not," Dr. Salmon muttered, getting a firm grip on the tooth. A strong tug, and the blood-stained tooth was dropped into the tray. "There now, Colonel, rinse please. I'm afraid that I did hurt you. But it was a tough job . . . a tough job. Let me see, please! Ah yes . . . well, now, we must keep the wound clean. I'll just put in a little penicillin dressing . . . that should

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keep infection away. I really am sorry I hurt so much!"

"My dear chap! Please forget it! Man of your ability doesn't hurt on purpose . . . or through clumsiness. If you hurt, you couldn't have avoided it."

That night was Thursday night, and on Thursday nights Dr. Salmon usually went around to the nice house in The Glade, where Rabbi Goldman lived. The rabbi had also lost his wife, but in more respectable circumstances, since Mrs. Goldman had died. The two lonely men exchanged visits to their well-furnished, comfortable, empty houses, and there they had a light meal, cooked (in each case) by a silent housekeeper, who spoke only to urge her master to get married again.

After dinner, the two men played chess. But not this night.

"Rabbi," said the doctor, "I'm worried . . ." and he told Goldman about the colonel, and more importantly, about the colonel's having suffered great pain.

"What's worrying you, Doctor?" the rabbi asked. "You think, maybe, you are losing your professional skill? After all, it's quite a muscular effort, isn't it, to extract a tooth—even a teeny one?"

"I'm not as young as I was," said the doctor, "but you'll have to take my word for it that I have lost none of my professional skill. No, Rabbi, it was something much more disturbing . . . even frightening. I hurt this colonel today *because I wished to hurt him.* He suffered this intense agony—oh, yes, Rabbi, he is a brave man, even if a dull, noisy fool!—not because I didn't extract properly, *but because I twisted the tooth in its socket.* I can't explain, Rabbi, I can only confess. And it hurts me terribly, Rabbi, even more than it hurt this wretched man. For it merely hurt his body, but this terrible thing, Rabbi, it hurts my soul!"

The rabbi was not exactly a man of the world, but he knew in his innocent way of the close connection between body and mind. He reached for the decanter of Glenlivet and poured a generous measure of the Scotch into the doctor's glass.

"Have a drink, my friend. This has upset you."

"Yes. Yes, it has." The doctor drank some of the whisky. "What worries me is that . . . well, Rabbi, there is something strange about all this, something that I don't understand, and I don't much like. It's . . . no, I know you won't laugh . . . but it was as though, when I was twisting this tooth in the poor man's jaw, I also could feel the pain . . ."

"We have all had a tooth pulled, my friend!"

"So? But, Rabbi, *I have never had a tooth pulled in my life.* Even my first teeth came away

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without pain. No . . . it was not out of my experience that I felt this pain. Why, then, did I feel it? Why did I, *purposely,* inflict this pain on the colonel?"

The rabbi took a sip of his whisky.

"What sort of a man is he? Describe him to me." And then, when the doctor had finished: "It is simple . . . though not, it is true, commendable. This man is the copybook portrait of a huge, overbearing, arrogant German—with his blond hair and blue eyes. Why . . ."

"Rabbi, this is not so! Yes, he looks like a German . . . or, more precisely, like some Scandinavian. But that was not the reason why I hurt him. Whatever that reason was, it was far more personal. I operated on German prisoners during the war—even on Nazi prisoners—but my professional objectiveness never deserted me, not once. This thing today . . . well, another thing: I saw this man, as he was lying in my dental chair, as someone I had known—no, as someone I *knew* —very well.

"Afterwards, when he was about to go, I asked him how we might have encountered each other, since his face was so very familiar to me? I didn't tell him that it wasn't until he lay in the chair that I got this shocking sense of familiarity. And do you know what he said, Rabbi? He said, 'It's a funny thing, Doctor, because I could swear I'd seen *your* phiz before!' But we went over one or two places. No, we never have met."

"Goodness," the rabbi puffed, "you must have seen each other scores of times! Why, he lives in Brinkstone, doesn't he? You must have seen him in the street, in the bank, in the club, in the shops, on the links . . ."

"No," said Dr. Salmon, firmly. "I *could* have banged into him, as you say, a hundred times. He is a big man, very noticeable. Hard to miss. But I tell you I have never seen him in Brinkstone, never in England, never in . . ."

"Never in *what,* my friend?" the rabbi asked, laying a hand on the doctor's arm.

"Silly thing, but I was going to say 'never in this life.' I mean, silly, because I *have* seen him before. And . . . and it's because I'd seen him that I twisted his tooth today."

"For revenge, you mean?"

"Well, yes, I suppose so, Rabbi. For revenge."

"But you don't know what you were avenging?"

"No. No, I haven't the least idea."

But in the morning, Dr. Salmon wondered if, indeed, he did know.

He had gone to bed late, dosing himself with a mild sedative

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against what he feared would be an unconquerable insomnia. The pills had done their job, but the resulting sleep had been filled with a dream so vivid that it had transcended the decent bounds of nightmare.

Dr. Salmon—Dr. Ezra Salmon, Ch.B. (Edinburgh), L.D.S. (London)—was standing in a large, bare, musty-smelling hall of stone. Light came smokily through windows set high in the lofty walls, and Dr. Salmon knew that he was waiting—and that he would not have to wait very long.

The air in the hall was smoky, but Dr. Salmon, catching a glimpse of blue sky and cotton-wool clouds through the murky lattice-panes, thought that, were he ever to see the world again, the sky would be clear over London. He knew that he was in a room of the Guildhall, and that the voices that he could hear through the carved oaken door were the voices of a court sitting in secret judgment on him. He had time to notice the furnishings of the great room—the gilded Italian gesso-work above the vast fireplace, in which smoldering faggots gave off a deep blue smoke. The Italian artists had contrived a pelican-in-her-piety, the drops of blood showing red against the dull gold of the pelican's breast. The pelican, tearing open her breast that she might feed her young on her blood, was a popular symbol of Christ's mercy towards sinners—Dr. Salmon had seen it often in London houses, as he transacted the business which had made him rich. And which, he reflected sadly, had brought him here . . .

A door opened, and a man-at-arms banged the steel shoe of his partisan on the stone floor.

"Ezra ben Schlomo!" he shouted—and Dr. Salmon, answering to his name, went hurriedly and humbly towards the open door, his trembling hands thrust into the sleeves of his long gaberdine.

They were sitting at a long table, raised high on a dais. The table was covered with Turkey silk, and the sword-of-justice lay on the table before the velvet-clad man with the blue eyes and yellow hair, who wore the golden collar of esses to indicate his power. But, thought Dr. Salmon, he would have had that power without the velvet and gold.

Dr. Salmon knew him well, this blond giant. The Norman knight, Sir Fulke de Braose de Tankerville, Earl of Haverstock, acting now, in a very dirty business, by patent of the King.

Dr. Salmon advanced across the room until he stood immediately before the dais, and in front of Sir Fulke. On the knight's side sat the scarlet-robed Sergeants-at-Law, the head of each covered with the white linen coif which gave their powerful Order its name. The power that they wielded came,

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some said, from days so ancient that their Order had existed before even the Romans came to Britain. Each Sergeant looked at Dr. Salmon with a curious mixture of hatred, contempt, greed and envy. Fulke de Braose signed to one of the Serjeants to begin the interrogation, and the Serjeant signed to a clerk. The clerk began to read from a parchment:

"Whereas, on this day of September, being the day next after the Feast of the Most Blessed Archangel, Saint Michael, in the Year of Our Salvation, One Thousand Two Hundred and Ninety-eight . . ."

The reading of the indictment took ten minutes. Dr. Salmon did not listen to the words; he knew what the indictment said—he brought his attention back as the clerk read out the sentence which ended . . . "against the Peace of Our Sovereign Lord, Edward, by the Grace of God, of England, King, of Aquitaine and Normandy, Duke, his Crown and Dignity." Then, rolling up the parchment, the clerk asked, "How plead you, Ezra ben Schlomo, before the King's Justiciar?"

"It is exactly thirty years this year," said Dr. Salmon, "since the office of King's Justiciar was abolished. I see, then, no Justiciar to whom I must answer."

The Chief Justice leaned across the table, pointing a thick finger at Dr. Salmon.

"The office hath been restored in the noble person of Sir Fulke de Braose de Tankerville, whom you see here. I warn you, Jew, that you trifle with our patience at your peril! Now answer me some questions. In the first place, do you deny that you secured the contract to provide the King's men with bread, as my Lord the King was readying himself to go to the Holy Land to fight against the paynim—do you deny that you secured this contract by fraud?"

"I secured this contract in the usual way—by purchasing the good will of the King's purveyors. If this be fraud . . . well, so be it."

"It was fraud. Do you further deny that you added to the price of bread, so as to recover these sums that you had put out as bribes?"

"No . . . else I had made a loss."

"Do you think of nothing but profit?" the Chief Justice asked with a sneer.

"Would you think better of me, made I a loss?" asked Dr. Salmon.

"It is for us to ask the questions. Do you, pray, merely answer. What have you done with the gold that you made? Ah, now you are silent! Do you refuse to hand over to us your ill-gotten gains?"

"I have no ill-gotten gains. I supplied bread at the fair price. The King's men ate well. I charged

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no more than what was just. I have no ill-gotten gains to hand over."

"It is for the King's Justices to deem whether or not your gains are ill-gotten. Hand them over, and we may even hold, in our mercy, that some portion of the money may be yours to have back. Do you refuse this?"

"I refuse. There is no justice in your demand."

Sir Fulke de Braose, the self-styled King's Justiciar, leaned forward.

"This bread, Ezra, Son of Solomon—was it sound?"

"Sound and sweet, my lord, as all who ate it may tell."

"Sound and sweet enough for you to eat yourself?"

"It was the same as I ate myself, Lord."

"Even when, perchance, it had grown a little stale?"

"Even so, Lord. Stale it might have been, yet stayed it sound and sweet."

"Are your teeth sound, too, fellow? Ah, I see that they are! Well, now, how many of the teeth with which God endowed thee remain in thy head?"

"All, Lord," said Dr. Salmon, in a faltering tone, for he knew well—as did every Jew in that terrible year of 1298—the purport of these questions.

"I am no usurer," said Fulke de Braose, "and I cannot reckon as can these clerks of mine. But I did ask one how he estimated the profit on just that one transaction of thine, by which thou didst undertake to victual the King's armies with bread.

"Knowest thou how this clerk reckoned thy profit? He assured me that thou hadst not less than 3,000 marks of profit!"

"A lie, my Lord! A lie! Was never a tithe of that!"

"No . . . ? Yet even 300 marks is no bad profit. Still, if thou wert to tell me the truth, why, then, we might get on with our business! What profit *didst* thou make?" And, as Dr. Salmon remained silent, de Braose continued: "I have a proposition to make. Let us not trouble ourselves with odd numbers. Let us say that thou hast thirty teeth, and that thou didst make a profit of 3,000 marks. Now, doth that not make each of thy teeth worth an hundred marks? Thou *still* remainest obdurate? Jailers! take him below!"

The pain was beyond any that Dr. Salmon had imagined—yet, even so, he allowed them to pull two upper molars before he consented to tell them where his treasure lay buried.

Fulke de Braose did not, of course, have anything to do with the actual torture, but he sat in a chair hard by and watched whilst his servants mangled gums and mouth. Dr. Salmon's stomach,

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long after they had done with him, shuddered at the bitter taste of the steel forceps.

They let him recover at leisure, giving him warm spiced wine to heal the hurts in his mouth. Dr. Salmon considered his plot. So far, if not so good—for the pain had been terrible—then at least so planned. His treasure he had divided into two vastly unequal parts. It was the smaller of the two parts that he was allowing Fulke de Braose to torture out of him.

Dr. Salmon, letting the wine take some of the pain away, thought back to the time when the warning had gone forth to the Nation: that strange, silent tocsin, expressed in a nod, a raising of the eyebrows, a whisper in the darkness, "On guard! the persecution is about to begin!"

There were two iron chests, very strong indeed. And on each, should by any chance the plan be changed, there was written, in Hebrew characters, and in cipher, the whereabouts of the other.

Dr. Salmon would lead the greedy Normans to the smaller box —but he had little hope that he would be permitted to survive the finding. Yet the word would have gone out, and someone of his own kind would read what was written on the box; read it, and profit by it. Once he had revealed the burying place of the smaller box, they would never find the larger, for they would never guess that it had been buried only a few paces from the box that they would be permitted to find.

"I am recovered now," said Dr. Salmon. "Come, let us go."

They went out of the Guildhall, across Cheapside, and into Pancras-lane, where Dr. Salmon had his house and place of business.

"Why, this is where you live!" said Fulke de Braose.

"Yes, my Lord, where else should I have hidden it?"

They let him show them the place, and the two men who had pulled Dr. Salmon's teeth now dug down for his treasure.

Fulke de Braose waited long enough to see the box opened, to prove for himself that it was full of coin and bar gold, of jewelry and caskets of even more precious spice.

Then he signed to a man-at-arms standing just behind Dr. Salmon. The man drew the dagger called a *misericorde*—a "mercy".

"I promised thee that we might give thee some mercy," said Fulke, with a grin, as the soldier plunged the dagger deep into Dr. Salmon's back.

"Open the hole a little," said the Norman, "and bury him where his ill-gotten treasure was."

"Are you all right, Doctor?" the receptionist asked.

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"I had such a strange dream," said Dr. Salmon, "that I simply can't shake it off. It was all about that Colonel Tankerville-Browse, too. That extraction must have upset me more than I thought."

"It's strange you should have dreamt of him, Doctor, for he's been on the phone already."

"What! *this* early! What did he want?"

"He asked me if he could change his appointment for next Wednesday, and be fitted in today. I looked at the appointment book, and I told him he could come along this morning. He'll be along after you've seen Mrs. Brewster and the little Hunter girl."

"Oh dear!" said Dr. Salmon. "I'd rather not have . . . Oh well, it's done now. Eleven o'clock, is he coming?"

Dr. Salmon shuddered as he saw Sir Fulke de Braose de Tankerville march arrogantly through the door, a black homburg in his hand and a bamboo umbrella over the other arm. The good—and weary—doctor fully expected to see two grim men-at-arms come marching in after the big man. But the door closed, the receptionist took Colonel Tankerville-Browse's hat, coat and umbrella, and the patient sat himself down in the chair.

"Why I pressed your little lady here to change the time of my appointment," the Colonel said, "was not simply because I wanted you to get cracking on the old fangs—gives me the pip to hang about over anything, specially me teeth—but because I had the *most* extraordinary dream last night. And you'll never *guess* who it was I met in my dream!"

"You met *me,*" said Dr. Salmon, sadly, gazing with a new interest at Sir Fulke de Braose. He added, "Did you kill me in your dream?"

The colonel was staring at Dr. Salmon as though he could not believe his ears.

"Wh . . . why, now . . . well, I'll be *damned!* What on earth put *that* into your head?"

"Didn't you dream of killing me? Oh well, I thought that perhaps you may subconsciously have wished for revenge on me for having hurt you yesterday . . ."

The suspicion drained away from the colonel's blue eyes.

"Oh . . . I see. Is that the answer. Still, fancy your guessing I'd dream that! Yes, actually I did. It was a hell of a long time ago, and I'd somehow become an ancestor of mine—Sir Fulke de Braose—and there I was, tugging out *your* teeth so as to extract some loot I'd made sure you'd buried."

"And had I buried it? In your dream, I mean . . . ?"

The colonel let out a vigorous ha-ha!

"I'll be damned if you hadn't. After we'd tugged a couple of real

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beauties out of you, you suddenly threw the sponge in, and offered to lead us to the buried treasure. There was a garden opposite a house, I remember—all old-fashioned stuff, like you see in the films, if you ever go to them. I don't much—lot of damned Yankee rubbish, mostly! And . . . where the deuce was I . . . ?"

"You were digging up my buried treasure . . ."

"Ah yes. Well, of course, *I* wasn't digging it up. Put a couple of Other Ranks on to that. 'T any rate, they soon struck a dashed-great iron box, all covered with bolts and things, and some funny-looking writing on top. Well, you showed us how to open it, and there it was, absolutely choked up with the right stuff! Then—of course, this was only a dream, mark you!—I told one of the squaddies to put you down."

"And he did?"

"Of course." The colonel looked his puzzlement. "Chap was simply obeying orders."

"You gave the orders?"

"Of course," said Colonel Tankerville-Browse. "I always give the orders. But here, Doctor, this is the damned funny part: after I'd told them to tip you into the hole we'd fished the treasure chest from, I told them to close the box, and we took it back to the Guildhall, where, apparently, I'd set up my own personal regimental H.Q. Funny! but I could even draw you some of the letters . . . I don't know, got a bit of paper and a pencil?" Dr. Salmon obliged, and watched as the colonel laboriously traced out the letters.

Dr. Salmon, not quite succeeding in keeping the excitement from his voice, read out:

"*Taw, Beth, Nun . . . Gimel, He, Resh, Shin* . . . How very strange, Colonel. These are real Hebrew letters."

"No? Really? Word of honor? Well, I'm damned. I actually dreamt this, and you tell me that these fancy letters are real Hebrew! Well, well! And what do they mean . . . ?"

"Nothing, as far as I can see. There were more, eh? Well, if you could recall those, perhaps we could find a meaning. But I can make no sense out of these."

"Be funny if you could, really," said the colonel, who was possessed of not much imagination—and what little he had had been sorely tried that previous night. "After all, it was only a dream, eh? Well, suppose you give the old choppers the once-over, eh?"

It was Rabbi Goldman who found the answer.

"You dreamt it was in cipher, eh, Doctor? Well, it may *be* in cipher, eh?"

"But I'm no good at ciphers. Never was."

"Were you better, maybe, in 1298? If you weren't, this must

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have been a very simple cipher—and, anyway, you wouldn't have made it so difficult your friends could never have solved it. Well . . . ? What's the simplest way of making a cipher, eh? I'd say backslang. Let's try."

They tried. The answer was plain. In English characters, they read:

B N T SH R H G

"I know the City of London well," said Rabbi Goldman. "I have a friend who was *Dayan* at Bevis Marks. If you went from the Guildhall, on the day after Michaelmas, 1298, to Pancras-lane, where your house was, and there was something on that chest to indicate where the other chest was —*and* if you buried the other chest a few feet away from the *first* chest—then your second chest, my friend, must be . . . here, let me put the vowels in—"

The doctor stared as the rabbi wrote:

BENET SHEREHOG

"The name of a church burnt down in the Great Fire of 1666—there's a plate on the wall recording it."

"Built over now, with all my treasure underneath," said the doctor, with a humorous smile.

But Rabbi Goldman's face had gone white.

"Na! It may not be so. The churchyard of St. Benet Sherehog has never been built over—even today it's still a funny little open place in the heart of the city. Doctor . . . *just suppose* . . . ? Could you remember, from your dream, just where you had buried this other *big* chest . . . ?"

"I remember. But . . . Rabbi . . . it's only a dream . . . I . . ."

"So it's only a dream. But, Doctor, Jacob had a dream. And so did Saul. And so did Pharaoh . . . We can at least look, can't we? And you say you remember where the other box is?"

"Yes, yes. What puzzles me is that I can't remember what was written on the smaller box."

"But your colonel remembered for you. So what does it matter?"

"He remembered only the last seven characters. Something came before. I have a feeling I should remember what was written there . . ."

It seemed only fair to invite the colonel to accompany them—after, of course, having commanded him to secrecy. The colonel seemed offended at the insistence on his discretion.

"Good God," he protested, "what the devil do you need me to say? 'Scout's honor,' and that sort of thing? However, fear not, I shall be as silent as the grave!"

It had not been as easy as all that. Because they asked for permission to dig in consecrated ground, a faculty had to be obtained from the Bishop of London —a formality which caused Rabbi

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Goldman some gentle amusement.

As they came, now armed with their faculty, as well as their picks and shovels, towards Pancras-lane, the colonel's boyish excitement rose to fever pitch.

"Good God, I remember this! Same as my dream. And, damn! here's the little garden—still here. Buildings have changed a bit, of course—not the same as the old-fashioned stuff. However, here we are, on a bright summer's dawn, with everybody in bed but us, and nobody to see what we're up to. I wonder . . . ?"

They dug where Dr. Salmon indicated, and it took an hour of the colonel's muscular digging to reach metal. One or two pedestrians stopped to watch, in that incurious way that the curious Londoner has—but they moved on, and it was still a long time before morning rush-hour when the colonel sang out:

"Well, Doctor, part of your dream's come true! There's certainly a box here. Any reason why we shouldn't open it down here?"

Was there a reason? Dr. Salmon asked himself, trying to explain the anxiety which now enveloped him like a fog. But he could find no valid excuse for forbidding the colonel to open the box, and he and the rabbi stood by the pit's edge and saw the big man beneath them attacking the rusted yet still sound iron chest with a cold chisel. (So evidently, both rabbi and doctor reflected, the colonel, since he had brought the chisel, hadn't doubted that they would find something!)

The outer lid came away, to reveal a flat, only slightly rusted inner lid, upon which were to be seen two circular handles.

The colonel, bending over the chest, grasped the handles, and tried to turn them. The two men above saw him snatch his hands away, utter an angry word and hold up, for his own astonished inspection, two badly bleeding palms. Then—and only then—did Dr. Salmon remember what *else* had been written on the other box.

"*Don't,* Colonel!" he shouted. "For *God's* sake don't touch it again!"

"Rubbish!" said the colonel, misunderstanding him—and bent down to grasp the two rusted rings which hung from the sides of the box. The rabbi saw the strained, bowed back, saw the muscles stand out and redden on the thick bull-neck . . . and heard a curious sound, like (as he recalled long after) the creak of overstrained timber. The colonel jacked up to his full height, a hand pressed against his heart . . . and fell across the larger treasure of Ezra ben Schlomo, Purveyor of Bread by Royal Warrant and Private Banker-in-Ordinary to his Lordship the King.

Long before the rabbi and the

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doctor had scrambled down into the shallow pit, the colonel was dead.

The poison-tipped spikes beneath the dummy handles—the trap for the unwary and uninformed that Dr. Salmon had remembered too late—had lost their venom over the centuries. It was his overstrained heart, and not Ezra ben Schlomo's deadly poison, which had ended the colonel's life. At his age, and in his soft condition, he should not have attempted to lift half-a-hundredweight of iron and gold.

There were two inquests—one on the colonel, at which the City Coroner expressed regret that the brilliant career of the late Colonel Fulke Tankerville-Browse, formerly commanding the 1st Battalion of the Grenadier Guards, should have been cut short in so dramatic and unhappy a fashion. He took this occasion, he said, to extend to the late colonel's family, his own and the Court's deepest sympathy.

The other inquest was held on the treasure that the late Colonel Tankerville-Browse, Dr. Ezra Salmon and the Reverend Israel Goldman had "found" in the ancient churchyard of St. Benet Sherehog, a church burnt down in the Great Fire of London, and never rebuilt. Well, now, said the City Remembrancer, whose office it was to decide on matters of treasure found within the City's limits, what has to be decided is this: to whom does the find belong?—to the three amateur antiquaries who guessed that treasure might be buried in the consecrated ground of a vanished church?—or to the Lord Mayor, by a right granted in a charter of Charles II, of Blessed Memory?

Never before, in the history of the City, said Mr. Remembrancer, had a hoard of such intrinsic value, combined with artistic quality and a quite extraordinary rarity, come to light. The three finders were to be congratulated on the service that they had rendered to our knowledge of the artistic achievement of the late Middle Ages . . .

In the end, Mr. City Remembrancer found that he must declare the find Treasure Trove, since not one of the finders could have *known* that the treasure would be found where, in fact, it was found. However, the old unjust interpretations of the law of Treasure Trove were, he was happy to say, no longer used. The three finders would be paid a large sum of money out of the National Art Collections Fund, and the treasure would be housed —in a manner worthy of its importance—in the new City Museum now rising on the desolation made by the last war's bombing.

The two men sat again over the chessboard.

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"Goodness!" said the rabbi as he saw where the doctor had put a pawn, "is *that* your gambit!"

"Na, Rabbi," said Dr. Salmon, "I wasn't actually playing—hadn't actually begun. Chess. I was thinking. You know . . .

> "'Tis all a checker-board of Nights and Days, where Destiny—with Men for Pieces—plays; and hither—thither—moves; and mates—and *slays*—and, one by one, back in the Closet lays . . .'

"I've been thinking. I asked myself: Why did he have to die *there* . . . ? I know it wasn't my—I mean, Ezra's—poison; yet the colonel died all the same. He had to, you say? Yes. Because he was worse than we? God help all us sinners, Rabbi! He was no worse, no better than all . . . not even," he said, with a strange little chuckle, "when he was pulling out teeth. Why did he have to go, Rabbi? And why *there*?"

"Completeness," said the rabbi, after a while. "Rounding off the pattern. You know, like chess . . ."

"Yes . . . like chess. And why did we two have to come back like that? Unfinished business, eh?"

"One would say," said the rabbi. And then: "Hey! Look at the time! We'll never get a game finished, unless we start soon!"

"Know what I'm going to do with my share?" Dr. Salmon asked, still playing with the black pawn held in his long fingers.

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"I'm sending a check to the Israeli War Fund." And then he added, to make the rabbi's black eyes open very wide indeed, "The colonel would have liked that . . ."

"The *colonel!* But, he . . . I mean . . . but surely . . ."

Dr. Salmon nodded vigorously.

"Yes, yes. I'm right. And even if the colonel mightn't have approved when he was with us, he will now, Rabbi . . . *he will now!*"

"Goodness gracious!—what makes you so certain, Doctor?"

"Do you remember . . . no, of course you don't . . . but in my . . . well, was it a dream? . . . in my dream, then, Sir Fulke de Braose told me that he had a deep interest in the Holy Land. I don't think he'd want to see it in the hands of the wrong people . . . There! See . . . I move my queen's bishop's pawn . . . your play, Rabbi . . ." ◄

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THE LANDLOCKED INDIAN OCEAN

ARTICLE

by L. Sprague de Camp

IN THE CLASSICAL WORLD, TWO wrong geographical ideas long bemused the minds of learned men. One idea was that the water level of the Red Sea—and therefore of the Indian Ocean—was higher than that of the Mediterranean. The other notion was that the Indian Ocean was a landlocked body—a lake. It was thought that the east coast of Africa curved around to meet the coast of southeast Asia, inclosing the *Indicus Oceanus*. The persistence of these beliefs has long puzzled later generations of scholars, but I *may* have hit upon the explanation of how they grew up and of the relationship between them.

Both beliefs were bound up with the story of the Nile-Red Sea canal, the predecessor of the modern Suez Canal but following a different route. Sometime in the second millennium B.C., a canal of sorts—probably for irrigation—was dug eastward from the easternmost branch of the Nile above Phacusa (= Faqus) along the Wadi at-Tumilat. Around 600 B.C., King Nikau II (=Niku, Nekos, Necho) tried to extend this canal to Lake Timsah, the midpoint of the present Suez Canal. Thence the canal was to have turned south and followed more or less the course taken many centuries later by the Suez Canal, skirting the Bitter Lakes to the head of the Red Sea.

Herodotus tells us (*History,* or *The Persian Wars*, Book II, section 158) that Nikau gave up the project "in consequence of an oracle which warned him that he was laboring for the barbarian." A century later, after the Persian "barbarians" had conquered Egypt, Darius I finished the canal and commemorated this feat by erecting five stelae, whereof the best-preserved reads:

> I am a Persian. From Parsa I seized Egypt. I commanded this canal to be dug from the river, Nile by name, which flows in Egypt, to the sea which goes from Parsa. Afterward this canal was dug as I commanded, and ships passed from Egypt through this canal to Parsa as was my will.

Diodoros of Sicily—a mediocre

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historian but an industrious compiler—gives a curious and at least partly wrong story about this canal. Darius, says he (*Library of History,* Book I, chapter xxxiii, paragraphs 10f):

> . . . finally left it unfinished; for he was informed by certain persons that if he dug through the neck of land he would be responsible for the submergence of Egypt, for they pointed out to him that the Red Sea was higher than Egypt. At a later time the second Ptolemy completed it and in the most suitable spot constructed an ingenious kind of lock. This he opened, whenever he wished to pass through, and quickly closed again, a contrivance which usage proved to be highly successful.

As far as I know, this is the first mention in the West of a canal lock, although the Chinese from ancient times on used a simple weir to control the flow of water in their canals. It is too bad that we do not have any details of the lock of King Ptolemaios Philadelphos (*reg.* 283-247 B.C.). If we did, we should know whether he anticipated the European engineers who began installing canal locks, in the modern sense of the term, in Italy and the Netherlands around 1400.

Evidently, it was once believed that the level of the Red Sea was substantially higher than that of the Mediterranean. If somebody indeed tried to discourage Darius' project on that ground, Darius (Diodoros to the contrary notwithstanding) paid no heed. Then and later, it was common belief that water could take different levels in different parts of the same body, even though no current flowed between the two places. Thus, when Demetrios Poliorketes ruled Macedonia around 290 B.C., he started to cut a canal through the Isthmus of Corinth (as the emperor Nero did long afterwards) but (Strabon: *Geography,* I, iii, 11):

> . . . was prevented by the engineers, after they had taken measurements and reported to him that the sea in the Corinthian Gulf was higher than at Kenchreai, so that, if he should cut through the intervening land, the whole strait about Aigina, Aigina itself, and the neighboring islands would be submerged, and the canal would not be useful, either.

To a modern reader, this looks like a simple case of sloppy measurements. Perhaps a similar error accounted for the original warning to Darius about the overflowing Red Sea. But surveyors of those days probably did not fully realize the limitations of themselves and their instruments—or did not care to admit them.

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Since Darius did in fact finish his Red Sea canal, Diodoros is not quite right in saying that Philadelphos "completed" it. What Philadelphos probably did was to dig it out after it had been allowed to fill up. There is no evidence as to how long the canal worked after Darius built it. It may have decayed during the last period of Egyptian independence, 405-341 B.C. Then Egypt was on the defensive against Persia, and kings of the Mendesian and Sebennytic dynasties probably lacked both the resources to keep up the canal and the wish to do so, since it gave an entree for Persian ships to the heart of their land.

Perhaps Philadelphos built his canal lock because he, too, had heard the story that the Red Sea was higher than the Mediterranean. As things turned out, the Red Sea stayed tamely in its bed and showed no disposition to flood the Delta. Under the later Ptolemies, the canal filled up again and went out of use until the emperor Trajan once more dredged it out. It was abandoned for good during the disorderly centuries following the Arab conquest of A.D. 646.

In the third century B.C., Eratosthenes and Archimedes put forth theories bearing upon the levels of the Red and Mediterranean seas. Eratosthenes assured his readers that the continents were islands surrounded by water —that the Atlantic, the Mediterranean, the Indian Ocean, and the Red Sea were all interconnected. Archimedes, in *On Floating Bodies,* demonstrated that—given a spherical earth with a uniform gravitation directed towards the center—the surface of every liquid body at rest would be spherical with the sphere concentric with the earth. Hence, if two seas were confluent and there was no current between them, they would have the same level.

In the next century, the astronomer Hipparchos wrote a book on geography called *Against Eratosthenes,* devoted to sniping at his eminent predecessor. Citing Seleukos the Babylonian—one of the few ancient thinkers to accept the theory of Aristarchos of Samos that the earth went round the sun—Hipparchos in particular attacked Eratosthenes' assertion that the oceans were all one. Whether he definitely averred the contrary —that the land was continuous and the oceans were lakes in it, and that therefore the Indian Ocean must be landlocked—I know not. But if he did not, somebody did, since his contemporary, the historian Polybios, mentions the concept.

Most of our knowledge of the long-lost writings of Eratosthenes and Hipparchos comes from the *Geography* that Strabon of Amasia composed in the early years of

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the Christian Era, in which he sniped both at Eratosthenes and at Hipparchos. Although an able geographer, Strabon had his limitations. For one, he did not know, or did not believe, Archimedes' proof that interconnected bodies of water at rest had the same level. He believed, instead, that sea levels varied even when interconnected, and cited the case of the water on the two sides of the Isthmus of Corinth.

For another, Strabon was a Homeric fundamentalist. He thought to settle geographical questions by quoting the Poet's verses, like a Holiness Baptist in the hills of Tennessee proving from Scripture that the Earth is flat. Strabon boiled with rage whenever the skeptical Eratosthenes cast doubt upon Homer's omniscience by saying that, after all, poets were entertainers, not teachers.

The arguments that Strabon put into the mouths of Eratosthenes and Hipparchos are anything but clear, and sometimes he made them contradict themselves. The most one can be sure of, from this murky verbiage, is that, in the third and second centuries B.C., it was often debated whether the levels of connected seas were or were not the same, and whether the earth's land masses or its oceans were continuous.

Belief in a difference in levels of the Red and Mediterranean seas appears to have revived. This notion, which flits through the centuries like an unlaid ghost, seems to have abated when the Red Sea canal was in use to refute it and to have revived whenever weak or heedless rulers let the canal fill up with sand. It is but one of many mistaken beliefs that have persisted long after they have supposedly been demolished. Witness the revival of a modified Lamarckism by Cope, Michurin, and Lysenko; or of the cometary-collision hypothesis of Giovanni Rinaldo Carli by Ignatius Donnelly and Immanuel Velikovsky.

As for the logical consequence of the belief that the land was one —namely, that the Indian Ocean was landlocked—Polybios of Megalopolis knew there were disputes about it but cannily refused (*Histories,* III, 38) to take sides:

> But as no one up to our time has been able to settle in regard to those parts of Asia and Libya, where they approach each other in the neighborhood of Ethiopia, whether the continent is continuous to the south, or is surrounded by the sea . . . anything we know must be the result of future exploration; and those who rashly venture by word of mouth or written statements to describe this district must be looked upon as ignorant or romancing.

Rashly or not, Strabon had no

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trouble in taking sides. He sided with Eratosthenes, but not for what we should deem a scientific reason. The ocean must be continuous, forsooth, because Homer had sung of "the deep-flowing stream Okeanos, the outermost bound of the earth."

The inclosure of the Indian Ocean took final form in the *Geography* of Claudius Ptolemaeus, the Helleno-Egyptian astronomer of the second century A.D. Ptolemaeus, who leaned heavily upon his predecessor Marinus of Tyre, averred (*Geography*, VII, iii, 6):

> From Cattigara [a city in the Malay Peninsula] towards the west, the boundary is formed by the unknown land surrounding the sea called Prasodes as far as the promontory of Prasum, from which begins, as has been described, the Batrachian Gulf, connecting the land with the promontory of Rhaptum and the southern parts of Azania.

Azania is modern Somaliland, and the promontory of Rhaptum is Cape Guardafui. The map that Agathodaimon drew for the manuscripts of Ptolemaeus' *Geography* shows a long coast of *Terra Incognita*, stretching 3,500 miles from Malaysia to East Africa and more or less following the parallel of 18° S.

What made Ptolemaeus so sure of the existence of this vast tract of land, whither nobody had gone and returned to tell the tale? We do not really know, but a surmise is possible. My surmise is that he —or whatever predecessor he borrowed from—was trying to combine several ideas in which he believed, but which could be made to fit together only by means of this daring speculation.

First—probably following Marinus—Ptolemaeus agreed with Hipparchos that Eratosthenes had not proved the unity of the oceans.

Second, he accepted the belief that the waters of the Red Sea stood higher than those of the Mediterranean.

Third, he accepted Archimedes' proof that, if these waters were interconnected, they would be at the same level. So, since they stood at different levels, they must be separated by land. Hence the Indian Ocean must be surrounded by land; Q.E.D.

As to the precise form of this land, Ptolemaeus or his source had a hint from another contemporary of Hipparchos, Krates of Mallos. Judging from his surviving fragments, Krates argued for a land mass in the southern hemisphere to balance the known world in the northern.

Krates, however, was not a geographer but a grammarian and, like Strabon, a Homeric fundamentalist. He was sure of the

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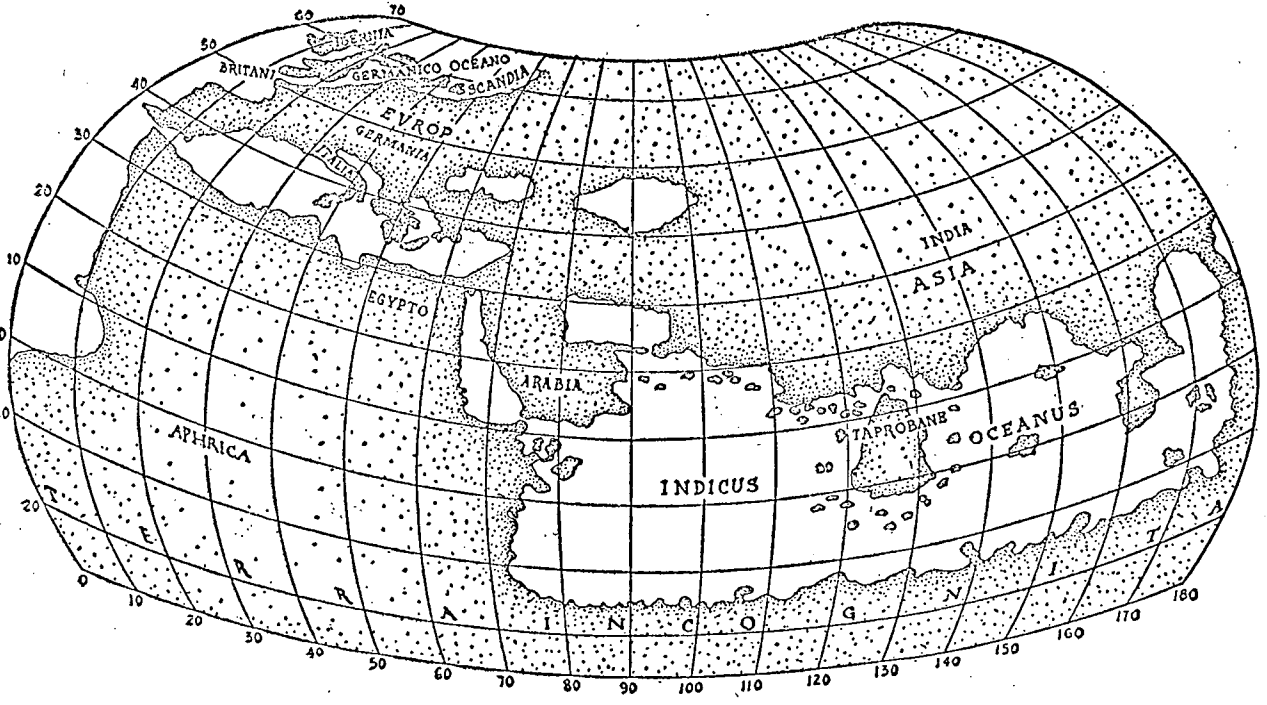

Map of the world according to Claudius Ptolemaeus. This is a much simplified copy of a version published in 1478, which in turn was derived, via many copyings and redrawings, from the original prepared by Ptolemaeus' follower Agathodaimon.

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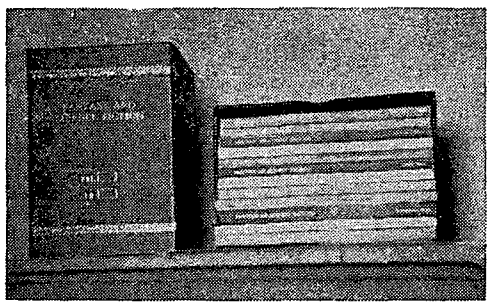
existence of this Southland, not for any scientific reason, but because Homer had spoken of "the Ethiopians that are sundered in twain." Therefore there must be two Ethiopias: the northern, known one and a southern, unknown one opposite it, separated by an arm of the sea, which joined the Atlantic and Indian oceans.

Ptolemaeus, we may suppose, seized upon Krates' Counter-Ethiopia. Not being so devout a Homerist as Krates, he welded it fast to the known part of Africa, which thus became a colossal peninsula extending northward from the Southland. Thus the Indian Ocean was landlocked. And thus —from a mistaken report by some Egyptian surveyor to King Darius, from Hipparchos' attacks on Eratosthenes, from Archimedes' hydrostatics, and from Krates' Homeric pedantry—grew the wonderful concept of the great Terra Australis Incognita, the Unknown Southland. Thenceforth it haunted the maps of the world until, in the 1770s, Captain Cook —alas!—disproved its existence once and for all by sailing back and forth over the vast, watery waste where it was supposed to lie.



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A SHORT AND HAPPY LIFE

by Joanna Russ

Skinner-Waxman was hiring.
To this end, they sent out several students to measure the height of a public building with the aid of an extremely
handsome
sensitive
solid
and more or less vertical
Barometer.
One said:
I was at first determined to measure the height of the Civic Depositors' Bank and Guaranty Income Trust by measuring the air pressure at the bottom and comparing it with the air pressure at the top.
But then I thought: *That has no style.*
I then decided to measure the shadow of the barometer—stuck upright in the ground—and the shadow of the Bank, Bank being to Barometer as Shadow to Shadow.
But shadows change and pass and clouds may come alas and the sun moves as the grass withers and all is mutability.
And I thought: *Death comes.*
So I went to the top of the Civic Bank and Guaranty Income Depositors' Trust with the intention of dropping the barometer off the roof and timing its splat, but it occurred to me that it might fall on someone's head, on the head of a worthy father of a family, on the head of a girl, on the head of a girl in a summer dress who walks with her dress clinging and her hair swinging, with beads of sweat on the nape of her neck, looking for the right building and the right typewriter below the horrible chances of sixteen feet per second per second off the top of the Depositors' Trust.
And I thought: *There must be trust.*
So I went to the janitor of the building and said "What information will you give me in exchange for this handsome, vertical, solid and extremely sensitive barometer?"

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But although we had several drinks together and he was extremely
handsome
vertical
solid and
sensitive,
He knew nothing.
So I took a train to the plane and the plane to the city
and the city to the bus and the bus to the library and
my feet to the archives and got the whole thing out of
a book.
(We told you, said the interviewer, to use the barometer.)
I did, said the student, I used it to hold down the left-
hand pages whilst I looked at the right-hand pages and
I may say, Sir, that your barometer is sadly wanting
in construction.
For although it is extremely sensitive, handsome, sturdy
and comes in an attractive leather case, it has one
fatal tendency, to wit: to roll.
Although (he added) that may be considered natural enough
in a more or less roughly cylindrical object;
For as Lao-tse says: *That is the joy of barometers.*

They rejected him.
(They even gave his barometer to someone else.)
He joined—never mind what, it was a great secret and
is a great secret to this very day, and died several
years later off Alpha Procyon while in the performance
of his duties, which may not be spoken of, mentioned,
described or referred to, here, there, or anywhere else—
Flash-frozen like a can of soup, died laughing, was frozen
laughing, remains laughing to this very day.
He thinks (while circling around the green star in a sit-
ting position):
How pleasant to laugh!

Skinner-Waxman still uses the barometer, which is not per-
mitted UNDER ANY CIRCUMSTANCES TO ROLL.

NOTE: Skinner-Waxman is the name of a multiple-choice test used to measure creativity.
What?

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When passengers routinely board the noon rocket to Altair IV, they're going to demand something more diverting than in-flight movies, freshly broiled steaks and furry throws. After all, it is 15 light years, and even with faster than light speeds, you have to allow a week or so for the approach and parking, if nothing else. Here's a surprising story about a group of bored passengers and what diverted them.

A RUN OF DEUCES

by Jack Wodhams

SPACE TRAVEL IS DULL. THE more sophisticated travel becomes, the duller it gets.

A man on a horse is directly aware of his relationship to his surroundings, is sensible of his speed, is in every sense physically conscious of his location and whereabouts. In a powered vehicle some of his awareness is lost, his personal feeling of bodily motion radically diminished, and he has to rely more heavily upon his eyes to relate himself to his constantly changing position. Upon a ship driving across a featureless ocean, a man requires distant external observations and mathematical calculations to find out where he is, one ocean bearing an extreme similarity to another—but he can at least watch the wake arrowing away and so be strongly persuaded that he *is* going somewhere.

A passenger in an aircraft is seated in a static environment. In an aircraft, once inertia has been overcome and height attained, the physical awareness of motion dwindles to become virtually negligible. The view of the earth from a speeding, high aircraft is not conducive to a mental conception of rapidity—and the wings of an airplane cruising at 600 mph look surprisingly much the same as the wings of the same aircraft standing stationary on the tarmac. One's consciousness of flying is maximally an abstract rationalization (the engine is performing thus, the air is invisibly flowing so, there is no extrinsic material support holding the craft aloft, there-

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fore the craft *must* be flying) and minimally aided by only one of the five senses—sight.

In space travel even the slight assistance of vision is denied. Soon after departure there is the almost morbid fascination of watching the Earth speck out and, as the constant comfortable ¾G punches, the diminution of the sun to a blob, to be just another star among the static rest. And there, for a while, one knows the frightening Moments of Suspension, a testing time where the mind has nothing to convince it of forward progress except through the dispassionate statements of instruments. This period purely demands an avowal of faith in technology. Then the surrounding stars begin to blink out one by one, faster and faster, exhaust sparks dying, while up ahead a vast faint bowl of luminosity steadily shrinks to a cup of brilliance, and continues to shrink.

Nothing to see, nothing to measure against. All is dark, the craft is alone, a capsule of existence in infinity. In the two weeks of journeying time, the circle of light ahead will dwindle to an unbearably intense pinhead.

In a few hours after dispatch, the passengers aboard the vessel will have nothing to excite their visual senses, and the observation ports will be withdrawn and sealed. Now the vessel will be a tower, normal, stable, with upstairs and downstairs, closed for a long night, secure, easy to conjecture a moat without and solidity beneath.

It is impossible to associate velocity with such agreeable, unexceptional-seeming conditions.

The S.S. Yonda was especially equipped to cater to conscious passengers. It was an expensive way for a person to choose to traverse the heavens, but there are those self-subsidized sporstmen who regard an outlay upon two weeks of unlicensed freedom of expression as being credit most usefully spent.

There is privacy in space—no snoopers, killjoys, policemen, fuddy-duddy regulations.

"Aren't you supposed to be on the bridge or something, Captain?" Nila said. She shuffled cards expertly.

"We're plus-ultra automatic, but Bolk is up there taking his trick just in case," Captain Copendau assured them. He pulled a seat like a drawer out of the center table. "May I join you?"

"So soon, Captain?" Nila said, summing up his raffish looks. "I'll cut you in any time."

"Deal, willya, and stop gabbin'," growled Rist, her titular escort. "He wants in, lettim in. Just deal."

Six of the twelve passengers were in the poker game. Two girls

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and a crewman watched. Nila was the non-playing dealer. Two other passengers were away amusing themselves elsewhere, and the remaining traveller, Lushley, was drinking and holding communion with himself in a corner.

Nila dealt. A couple of hours passed.

"Say, Cap, this dump we're going to, what's it? Bellaterra? You been there before?" Gangtvitz compared the three cards he had drawn to the two he held in his hand. He threw the lot down in disgust and swore. "Haven't had a good hand all night. Or is it day? Ah, the hell with it." He picked up his tumbler.

Copendau liked the look of the three sixes that he had. "Yes, I've been there before. Couple times. Last time I was there they were civilized enough to need a six-man legal militia. Your two and up five."

Mrs. Tanser favorably calculated the odds on her straight. "Raise it ten," she said. "I hope they've had the sense to toss out the worst of civilization and keep the best."

"I heard it's loosened up some since the lab-tab cleared it and quit," Rist said. He held a flush. "Fifteen and up twenty-five."

The others dropped out. Copendau met the bid. Mrs. Tanser took the ante higher, Rist upped it again, and Copendau inevitably lost.

Three days out. Two of the girls were performing an uninhibited hula, their audience clapping and urging them on. "Upstairs" in the captain's tiny cabin, Copendau was lying with Nila.

"You're a fraud, glamorous captain," she chided, stroking his collarbone. "I'm disappointed. I thought you'd have to be mostly up topside, a hero ever ready for an emergency."

"Once the course is fixed and the rate determined, there's nothing more to do. There's no point in making alterations—alterations are the last thing we want. Once set, there's nothing to do but wait." He let his eyes help rekindle his interest. "The time might as well be spent as congenially as possible."

"Uh-uh," her smile was sardonic, "but supposing a great big rock should appear in front of us, what then? Is the lookout automatic too? We're going awfully fast aren't we?"

Explanations to first-timers Copendau smoothly gave by rote. "Our progress is exponentially space-contractive, and we are moving at a velocity incompatible with our present locational area. Follow?"

"No. But it sounds marvelously reassuring."

"Yes, well, we're no longer in phase with the time-scale of this sector of space. Substantially, we are ghosts. Or, if you prefer, any-

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thing we're likely to meet will be a ghost. Once a craft is travelling in excess of local time limitations, material items like meteors and such have no great significance. We could zip through an entire star in a split second and not even notice it. You see, it wouldn't be there when we were, do you understand?"

"Mmmm. Fascinating." She leaned to press and kiss.

The two halves of the cabin door were thrown into their slots, above and below. "Hey, hey, what have we got here?" Gangtvitz cried. Gaily tipsy, he called over his shoulder, "Come look at this, friends. Our captain's cheating on us!"

After 142 hours the appetites of the passengers had become somewhat jaded. Their unbridled amusement seeking had sapped their vitality, exhausted their imaginations and had left them rather bored and prone to irritability.

"How much longer to turnover, Captain?" Mrs. Tanser asked.

Copendau checked the chronometer. "About fourteen hours." He picked up his cards. A pair of fours. He was feeling sour. His luck so far this trip had not been very good. He discarded. "Three," he said.

"Had a lot of fun last time I was in free fall," Mrs. Tanser hinted. "Two for me."

Copendau's grin was lopsided. "If you really want to let go, I'd advise you to get in a good ten hours sleep before the start. It takes a lot of steam." His hand improved by a pair of fives. Just good enough to make him a loser, he thought bitterly.

Lushley loudly ordered three. With an inebriate's combination of carelessness and cunning, he had made out quite well since joining the game.

Rist stacked his cards, Gangtvitz bid, the others bid, Copendau lost.

Turnover.

The motors cut out automatically when the cumulatively precise amount of thrust had been applied, thrust calculated to the last pound, to the last ounce, to the last gram.

An exact period of nine hours was allowed for turnover.

From the nose of the craft a small cone was ejected and magnetically slowed and aligned till it perfectly matched the speed and trajectory of the craft. The cone hung twenty meters in front of the craft and measurements were taken and checked, retaken and rechecked, test, test, test.

Below, the passengers riotously indulged in a weightless game of chase, the women squealing, the men cursing and laughing.

Outside jets rolled the craft over end-to-end, to point back the

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way it had come. Scanners in the tail now locked onto the cone. The jets nudged and trimmed, truing the vessel to the one focal point. Testing, matching, near enough not good enough, dead reckoning to be just so.

Set. Nothing more to do till the motors started again, kicked in at a time prejudged to the second. And nothing to do then as the computers made minor corrections, made infinitesimal adjustments to compensate any irregularities that may have occurred in the filed schedule.

All was well. Copendau could now relax until arrival time. He went down to offer his experience to the party.

"That, Captain," Mrs. Tanser said, "is a practiced technique."

"I have given the matter some study," Copendau admitted.

"An excellent demonstration, you pass with honors," Mrs. Tanser said. "It was considerate of you to give me your personal attention."

Copendau smiled cynically. "It's part of my job to try and keep the customers happy. I try to be as impartial as I can."

"Thanks," she said drily. "Nice to know that you're not just revenging yourself for your losses."

"My luck'll change on the second half," he said confidently.

Before she had time to comment, a girl came shrieking by upside down and being pursued by a slower, emptily clawing sweat-wet Gangtvitz. "Cap!" and he cursed as he swung beyond grabbing distance, "for god's sake nail us down again, huh?"

It was a vastly entertaining episode. Hours before the alarm buzzer warned of the imminent resumption of power, the passengers were prostrate with fatigue in their bunks.

Ten days.

"I'm getting goddamn sick of poker," Rist said. "We need something different. We need something with more . . . more surprise in it."

Copendau's luck had not changed—he was still losing, had even been forced to postdate his last two slips.

"Usual thing is to run a pool, isn't it, Cap?" Gangtvitz said.

"What kinda pool?"

"You have to guess how far out we'll be when we arrive back into our own time-sequence."

"How do you mean? How far out from Bellaterra?"

Copendau grinned. He elucidated for the benefit of those unfamiliar. "No. How far out from Bellaterra's sun. It costs twenty units for a guess, say, and the one who guesses nearest to the right answer wins the pool."

"How about you? You'd know better than anybody where we're likely to come out."

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"Not really. I do not know any more than you do just how close we may be. With luck we'll come out as programmed, five billion miles away—but this very, very rarely happens. On a two-week run like this we could be anything from twenty to two hundred billion miles out."

"That's chancy, isn't it? We could run right into it."

Copendau shook his head. "The aim is to fall just short of the target system. This is usually about five billion miles for this G-type. This margin drops us outside the perimeter of the most extreme orbiting body. The chance of a collision would be remote, but it's a chance that's not taken."

"You can't overshoot, huh? So you always fall short by a certain amount?"

"That's right. Placement is a very fine art, because nothing stays still. Earthside runs the schedule through the double-twelve. We feed this into our bank, and when the bank is good and ready, we start out, the bank taking fixes to line us so that we and where we want to go can have some proximity to each other when we come out. But there is no minus allowance on the five billion mile margin—only plus. The equipment has a built in plus-factor that favors any discrepancy. Thus point six-zero 29 recurring would become six-zero 29 or six-zero 3, whichever one was most likely to widen the safety strip, do you see?"

"Uh-uh. So you always arrive over five billion miles from the target."

"Always. The closest I've ever been is twelve billion. Commonly it is thought to be good shooting to arrive between twenty-five and fifty. They're pretty slick these days, and they've whittled the billion-billion bull's-eye down to 500. Not many have to run longer than a day on the second stretch."

"And it's all in the works and there's nothing you can do about it, right?"

"Right. But to make sure that the captain's specialized knowledge has no advantage, he and the crew take no part in the pool."

"Ah." Rist nodded. "So we start at five billion miles and guess on out, huh?"

"Yes, to the nearest couple billion or so. The winner takes the pot."

"Uh-uh. And what's the average score?"

"Aw, between 40 and a 100 is most usual. Down from 40 and up from 100 the odds lengthen."

"Good. Let's get started," Rist said. "I'll put twenty units on 70 billion. . . ."

The pool proved, as always, to be a popular innovation. It became more and more fascinating as the kitty grew with each haz-

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arded selection. As they moved into another day, the party gradually split into two factions—those choosing around 65 billion and over, and those preferring around 65 billion and under.

The captain was consulted, cross-examined, asked for his opinion time and time again. The stake in the middle became fat. Holes in the opponent's monopoly were filled with central numbers that for safety had to be more closely bracketed. The two sides became more distinct, Gangtvitz leading the low number investors, Rist and Mrs. Tanser leading the high. Loner Lushley with greatly affected sobriety perversely played the ends of the field, pointlessly taking 4 billion, 5 billion, 6 billion, etc., when he had no competition for anything more extreme than 16 billion. . . .

Twelfth day.

"Not long to go, Cap," Gangtvitz said.

Copendau kept his smile turned inward. "No. A little over 32 hours."

"Uh-uh." Gangtvitz stood just inside the cabin entrance at a point where he could keep peep-check on their privacy. "Cap, some of us have plenty chips saying that we're going to come out fairly close to target, you know? There's a stack of units on this deal of a sudden, and there's four of us figure you may be able to swing things a little, huh? Do you get me?"

"How do you mean?" Copendau asked innocently.

"Cap, don't give me the bugged eyeball," Gangtvitz complained. "You know what I mean. When we come out, who's to know just how far we are away, huh? It's 85 billion but you say it's 47, and who can call you a liar, huh?"

"Uh-uh. We have a log, and when we come out our position is automatically charted and recorded. In no way can I alter that, and after being cooped up so long, the matter is of such general interest that print-out duplicates are automatically made available. The process is very complex and navigationally integral, and it cannot be interfered with without getting it fouled up here and there. This could be very dangerous, and the doctored copy would lose me my license."

"Ah." Gangtvitz pondered. "So there's nothing you can do, huh? You're just a push-button operator?"

"I didn't say that."

Gangtvitz squinted at him. "You can do something? We could make it worth your while."

"I couldn't guarantee anything," Copendau said. "But I *might* be able to shade the odds in your favor a little."

"How?"

"What'll it be worth?"

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"Ten percent."

"Fifteen."

"Hey?" Gangtvitz chewed his lip. "Twelve and a half?"

Copendau gave it a moment's thought. "Okay."

"What will you do?" Gangtvitz wanted to know.

Copendau sighed. "Shave the margin. I can override our braking by a fraction to ensure that we arrive 15 to 20 billion miles closer than we would otherwise. If we're way off, it won't help much, but if we're near the mean average, it could make a lot of difference."

"Hm. No guarantee. But you'll do it?"

"Twelve and a half percent," Copendau repeated shrewdly.

292 hours. Most of the passengers were watching an art creation on the internal vid circuit. They were thinking of other things. The pool had become a magnet, a simple diversion grown big enough to absorb their interest. At this tail end of the voyage they were finding routine wearisome and feeling the cramp of their quarters. Nearly all had laid out more than they could afford. Lushley's long shooting had kept him his independence, and one of the girls preferred to save her money. But the rest intermittently huddled and consulted, and every now and then one or another would get up and go over to the crewman who was keeping the book and place a further twenty units on a guess.

In the captain's cabin Mrs. Tanser dexterously was appealing to Copendau's baser instincts in order to enlist his aid.

"Surely, darling, it would be wise to take extra precautions for safety's sake? What is a few hours' delay? It frightens me. I want to be positively certain that we won't run into that Adabranca, or whatever that outside one is called."

His eyes burned as he smiled. "Adyastra. Adabranca initials the planets out—Ane, Deut, Adventine, Bellaterra, Ranca, Ailron, Nase, Criol, Adyastra. They're all on a plane of about 30 degrees to our approach, and there's a great deal of space between them."

"Perhaps," she said. "But I worry just the same." Her eyes held his. "Several of the others feel as I do—half of your passengers, in fact."

"Oh?"

"To assuage our concern we are willing to pay you a reasonable sum if you can arrange things so that we, ah, arrive comfortably wide of our destination. You could," she fondled his ear, "recoup your losses, darling."

"What would be my cut?" he said.

"Oh, about . . . five percent?"

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"Is that all? Make it ten and I might listen."

She pouted. "That's a big chunk, sweet. There's six of us. Our limit is eight percent."

He considered this, allowed himself to succumb to her skillful blandishments. "All right. But I can't promise anything. I can only add about 20 billion to whatever it would be anyway."

She nuzzled closer. "We'll settle for that, darling. . . ."

Copendau was used to playing both ends against the middle, and usually his promises to influence the pool results were so much specious flummery. In this case, however, his own losses helped to persuade him that twelve and a half percent was much better than eight. Consequently he made his own calculations, found a reason convincing enough for the bank to accept, and slipped a modest course correction into the correlations.

The seals were off and the observation bubbles were out.

In the last few days the tiny spot of light beyond their tail had grown larger and larger, swelling and diffusing till now it seemed that the sky was in two halves. Oddly beneath them, the glow spread outwards and tenuously up, its composition translucently indeterminate. Above them was a thick blackness seeming as tangible as the bottom of a sea of mud.

"In a few minutes the first star should appear above shoulder level," Copendau said. A droll satyr with the measure of his audience, he held up a medallion. "First to spot the star wins this space-observer's badge. You'll have to be quick," he added genially, "because a lot come on together."

Up above the awful darkness was intimidatingly opaque. Did the eyes play tricks? Was it somehow . . . no it wasn't, but . . . could it be growing less dense?

Eleven passengers, Copendau and a crewman crowded into the

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bubbles. Eleven pairs of eyes strained for a glimmer. Two pairs of eyes watched knowingly and waited to corroborate the first claim. In the control room the remaining two crewmen waited for the uniform luminosity to melt into globules on the scanner. Solitarily in the lounge sat Lushley, contentedly sipping a cognac highball in front of the passenger-relay scanner.

"There! A star! A star!" a girl cried. "There!"

"No, there! Over there! Look, a star!"

"There's one!"

"I see one! I see one!"

"No, up here!"

"Over there!"

A cacophony broke out, and immediate arguments and denials. The claimants squabbled, and more stars pierced the fabric of the dark, and Copendau wryly grinned. Idly he picked a girl he had yet to get acquainted with. He himself glanced out and down preparatory to declaring his choice for the sharp-eyed prize.

Copendau's eyebrows altered his smile to one of puzzlement. The lustre beneath them had become tinged with a haze, was shimmering peculiarly. Copendau paused to look with greater attention. He had never seen anything like it before. It reminded him of a mirage.

In two seconds the jazzing reached a peak, in two more had stretched itself wide to stillness, and in one more second had become vastly, astonishingly, increasingly recognizable. A faint, hugely expanding crescent.

"Criol!" Copendau screamed.

In the lounge Lushley saw the upper edge of the crescent mushroom, saw the planet's thickly mottled cloud cover explosively, fantastically rushing out of the screen, a telescopic zoom lens gone mad. He was the last to utter a comprehensible phrase. "I've won," he said happily.

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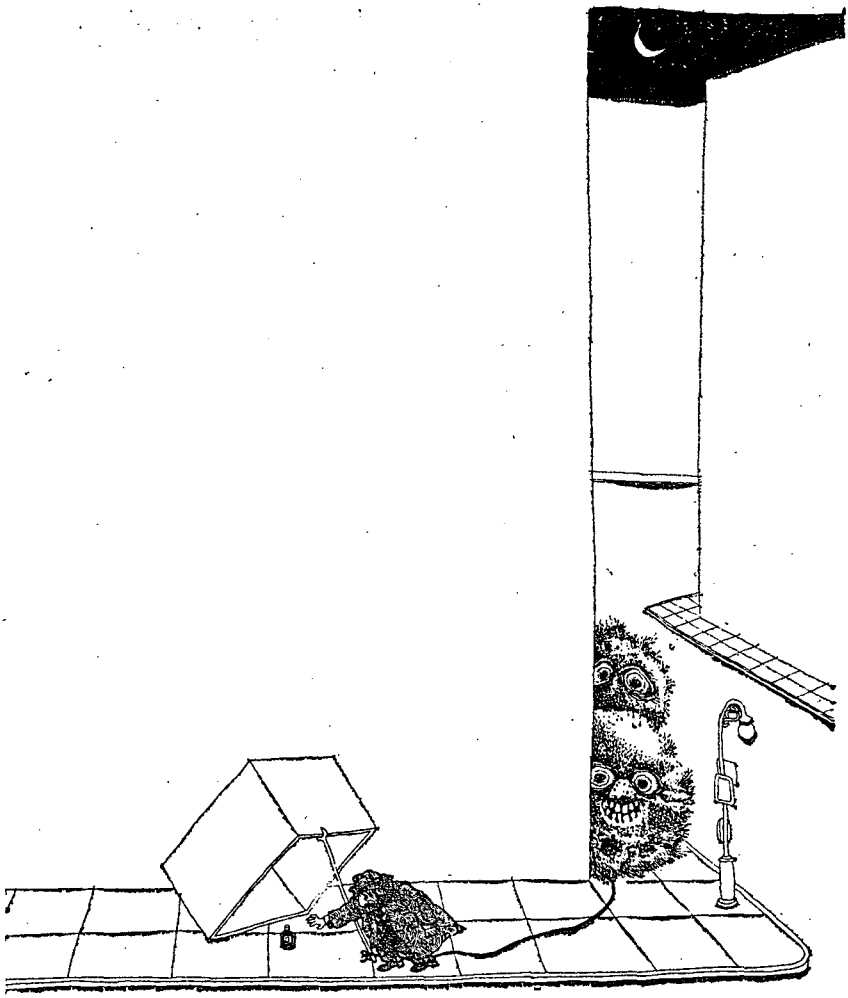

Gahan Wilson

"It's working!"

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Here is the second, and concluding, installment of Poul Anderson's new novel, in which Ginny and Steve Matuchek probe into the hell universe in search of their daughter. If you missed part one, the author's synopsis will bring you rapidly up to date.

OPERATION CHANGELING

by Poul Anderson

(conclusion)

SYNOPSIS OF PART ONE:

When our daughter was born, we named her Valeria for public. The real name—known only to us, Dr. Ashman who delivered her, and herself when she should come of age, a precaution against criminal nymic spells—was Victrix. Not that we expected trouble. We'd had it in the past, when Ginny must use her witchcraft and I, Steven Matuchek, my inborn lycanthropic ability, to survive. But now we were settled down, she a housewife, I an engineer at Nornwell Scryotronics, where my boss Barney Sturlason was also my good friend.

Unfortunately, the world's woes had not ended with the Caliphate War. The Johannine Church was more than a new denomination. It claimed to be a whole new dispensation, based chiefly on the last chapter of the Gospel According to St. John though it also frankly called itself Gnostic. At once irrational and esoteric, it denied that any other faiths had any further right to exist. In spite of its talk about peace and love—which made converts out of a lot of sincere and decent, if confused, people—its activities in opposition to the "corrupt Establishment" were bringing society to a crisis point.

Valeria was three years old when our family was hit. Nornwell had contracts to produce various police and defense equipment like witchmark fluorescers and basilisk goggles. When it refused to cancel these, pickets turned into a besieging mob. Along with most workers, I took my broomstick through a skylight and flitted home early. Barney and a few others stayed. I was to return. We had a scheme. Ginny got in on it. We left our daughter Val in the charge of her mother's familiar, the big black tomcat Svartalf, and flew back to the plant after dark.

The gaggle surrounding it didn't see us enter. Nor did the police who were watching them, debarred from acting against their trespass and vandalism because that would provoke the bloody, martyr-making riot that somebody obviously wanted. A

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Johnny priest had arrived. Officially his church took no political stand, but individual clergy from it often egged on this sort of thing.

We couldn't legally use offensive spells to clear the property: too dangerous. Barney and I made a last attempt to compromise, but the priest, Marmiadon, wasn't having any. We warned him of an experiment in progress, went back inside, and began it. The experiment consisted of generating a powerful magnetic field, such as nullifies any kind of spell. (That's why goetics ceased to be a technology when the Iron Age began, and didn't become one again till about 1900, when people found out how to degauss ferrous materials and shield electric apparatus.) Several pressurized cans, floating above the grounds, thereupon exploded, showering our visitors with chemicals—harmless, naturally, but the stench of them wouldn't come off anyone for a week or so. The mob ran. 'Twas a glorious victory.

Only . . . when Ginny and I got home again, we found Val missing. In her crib lay a mindless, half-alive imitation of her, a changeling. Svartalf was almost mortally wounded, after a battle that had torn up a lot of the house.

The FBI gets in on kidnapping cases. Its local chief, Robert Shining Knife, quickly clamped on a news blackout and told Ginny and me to stay indoors, with a guard to see that we did. He explained why. Evidence indicated that the kidnapper was a demon, a creature from the hell universe. That continuum, like Heaven and God only knows what else, is parallel to ours in hyperspace. Direct crossings are possible, though material beings have to exchange equivalent amounts and configurations of matter; hence it was necessary to leave a changeling. But the natural laws of hell are wildly different from those of our plenum. In fact, they keep changing, because space-time geometry there is variable. On this account, every attempt at direct investigation of it had ended in disaster.

Though the Adversary is always working through human agents and dupes, this was the first case reliably on record where a demon had made such an assault on a law-abiding home. No one knew what it portended. The Federal government was sure to move slowly, if it dared move at all. Certainly it wouldn't act fast against the Johannine Church, whatever our suspicions and accusations. And meanwhile our little girl was in hell! Desperate, we determined to go ahead on our own.

That night Ginny used her arts to sneak me out of the house without our guard knowing it. I made my way to Barney's home, told him the facts, and borrowed a broomstick. He said he'd quietly organize a committee of qualified, trustworthy persons, to collate available information about hell and stand by to assist in any manner that might turn up.

I flew off to the cathedral in Siloam, Johnny headquarters for the entire Upper Midwest. Tourists were allowed to sit in a corner of the basilica—one part of the huge main building—and listen to the famous perpetual choir chant hymns in an unknown tongue. Hardly anyone

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else was around at this late hour. I watched my chance to slip through a side door, into the sections where not even ordinary communicants were supposed to go. Knife handy while I was human, teeth ready in case I should have to turn wolf, I set off to learn whatever I could.

LINED WITH DOORS FOR THE length of the building, the corridor might have been occupied by any set of prosaic offices. Mostly they were closed, and the light overhead was turned low. A few glass panels glowed yellow. Passing by one, I heard a typewriter. Within the endless chant, that startled me as if it'd been the click of a skeleton's jaws.

My plans were vague. Presumably Marmiadon, the priest at the Nornwell demonstration, operated out of this centrum. He'd have returned and asked his brethren to get the stench off him. An elaborate spell, too expensive for the average person, would clean him up sooner than nature was able. At least, he was my only lead. Otherwise I could ransack this warren for a fruitless decade.

Where staircases ran up and down, a directory was posted on the wall. I'd expected that. A lot of civilians and outside clergy had business here. Marmiadon's office was listed as 413. Because an initiate in the fifth degree ranked fairly high—two more and he'd be a candidate for first-degree adept status—I'd assumed he was based in the cathedral rather than serving as a mere chaplain or missionary. But it occurred to me that I didn't know what his regular job was.

I took the steps quietly, by twos. At the third-floor landing, a locked wrought-iron gate barred further passage. Not surprising, I thought; I'm getting into officer country. It wasn't too big for an agile man to climb over. What I glimpsed of that hall looked no different from below, but my skin prickled at a strengthened sense of abnormal energies.

The fourth floor didn't try for any resemblances to Madison Avenue. Its corridor was brick, barrel-vaulted, lit by Grail-shaped oil lamps hung in chains from above, so that shadows flickered huge. The chant echoed from wall to wall. The atmosphere smelled of curious, acrid musks and smokes. Rooms must be large, for the pointed-arch doors were well apart.

One stood open between me and my goal. Incongruously bright light spilled forth. I halted and stared in slantwise at shelves upon shelves of books. Some few appeared ancient, but mostly they were modern—yes, that squat one must be the *Handbook of Alchemy and Metaphysics*, and yonder set the *Encyclopaedia Arcanorum*, and there was a bound file of *Mind*—well, scientists need reference

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libraries, and surely very strange research was conducted here. It was my hard luck that someone kept busy this late at night.

I glided to the jamb and risked a closer peek. A man sat alone. He was huge, bigger than Barney Sturlason, but old, old; hair and beard were gone, the face might have belonged to Ramses' mummy. An adept's robe swathed him. He had a book open on his table, but wasn't looking at it. Deep-sunken, his eyes stared before him while a hand walked across the pages. I realized he was blind. That book, though, was not in Braille.

The lights could be automatic, or for another worker in the stacks. I slipped on by.

Marmiadon's place lay several yards further. Beneath his name and rank, the brass plate read "Fourth Assistant Toller." Not a bell-ringer, for God's sake, that runt . . . was he? The door was locked. I should be able to unscrew the latch or push out the hinge pins with my knife. Better wait till I was quite by myself, however. Meanwhile I could snoop—

"What walks?"

I whipped about. The adept stood in the hall at the library entrance. He leaned on a pastoral staff, but his voice reverberated so terribly that I didn't believe he needed support. Dismay poured through me. I'd forgotten how strong a Magus he must be.

"Stranger, what are you?" the bass cry bayed.

I tried to wet my sandpapery lips. "Sir—your Enlightenment—"

The staff lifted to point at me. It bore a Johannine capital, the crook crossed by a tau. I knew it was more than a badge, it was a wand. "Menace encircles you," the adept called. "I felt you in my darkness. Declare yourself."

I reached for the knife in my pocket, the wereflash under my shirt. Forlorn things, but when my fingers closed on them, they became talismans. Will and reason woke again in me. I thought beneath the hammering:

It'd have been more luck than I could count on, not to get accosted. I meant to try and use the circumstance if it happened. Okay, it has. That's a scary old son of a bitch, but he's mortal. Whatever his powers are, they don't reach to seeing me as I see him, or he'd do so.

Nonetheless I must clear my throat a time or two before speaking, and the words rang odd in my ears. "I—I beg your Enlightenment's pardon. He took me by surprise. Would he please tell me . . . where Initiate Marmiadon is?"

The adept lowered his staff. Otherwise he didn't move. The dead eyes almost rested on me, unwavering, which was worse than if they actually had. "What have you with him to do?"

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"I'm sorry, your Enlightenment. Secret and urgent. As your Enlightenment recognizes, I'm a, uh, rather unusual messenger. I can tell him I'm supposed to get together with Initiate Marmiadon in connection with the, uh, trouble at the Nornwell Company. It turns out to be a lot more important than it looks."

"That I know, and knew from the hour when he came back. I summoned—I learned—enough. It is the falling stone that may loose an avalanche."

I had the eldritch feeling his words weren't for me but for someone else. And what was this about the affair worrying him also? I dared not stop to ponder. "Your Enlightenment will understand, then, why I'm in a hurry and why I can't break my oath of secrecy, even to him. If he'd let me know where Marmiadon's cell is—"

"The failed one sleeps not with his brothers. The anger if the Light-Bearer is upon him for his mismanagement; and he does penance alone. You may not seek him before he has been purified." An abrupt snap: "Answer me! Whence came you, what will you, how can it be that your presence shrills to me of danger?"

"I . . . I don't know either," I stammered.

"You are no consecrate—"

"Look, your Enlightenment, if you, if he would—Well, maybe there's been a misunderstanding. My, uh, superior ordered me to get in touch with Marmiadon. They said at the entrance I might find him here, and lent me a gate key." That unobtrusive sentence was the most glorious whopper I ever hope to tell. Consider its implications. Let them ramify. Extrapolate, extrapolate. Sit back in wonder. "I guess they were mistaken."

"Yes. The lower clerics have naturally not been told. However—" The Magus brooded.

"If your Enlightenment'd tell me where to go, whom to see, I could stop bothering him."

Decision. "The night abbot's secretariat, Room 107. Ask for Initiate-Six Hesathouba. Of those on duty at the present hour, he alone has been given sufficient facts about the Matuchek case to advise you."

Matuchek case?

I mumbled my thanks and got away at just short of a run, feeling the sightless gaze between my shoulder blades the whole distance to the stairs. Before climbing back over the gate, I stopped to indulge in the shakes.

I knew I'd scant time for that. The adept could well fret about me until he decided to set inquiries afoot, which might not end with a phone call to Brother Hesathouba. If I was to have any chance of learning something real, I must keep moving.

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Where to, though, in this Gormenghast house? How? What hope? I ought to admit my venture was sheer quixotism and slink home.

No! While the possibility remained, I'd go after the biggest windmills in sight. My mind got into gear. No doubt the heights as well as the depths of the cathedral were reserved for the ranking priests. But the ancient mystery religions had held their major rites underground. Weren't the crypts my best bet for locating Marmiadon?

I felt a grin jerk of itself across my face. They wouldn't lighten his ordeal by spelling the smell off him. Which was another reason to suppose he was tucked away below, out of nose range.

Human noses, that is.

I retraced my steps to the first level. From there I headed downward. No one happened by. The night was far along; sorcerers might be at work, but few people else.

I descended past a couple of sublevels. In one I glimpsed a sister hand-scrubbing the hall floor. Duty? Expiation? Self-abasement? It was a lonely sight. She didn't spy me.

A ways beyond, I encountered another locked gate. On its far side the stairway steepened, concrete no longer but rough-hewn stone. I was down into bedrock. The wall was chilly and wet to touch, the air to breathe. Modern illumination fell behind. My sole lights were candles, set in iron sconces far apart. They guttered in the draft from below. My shadow flapped misshapen around them. Finally I could not hear the mass. And still the path led downward.

And downward, until after some part of eternity it ended.

I stepped onto the floor of a natural cave. Widely spaced flames picked stalactites and stalagmites out of dense, unrestful murk. Hands of Glory burned over the mouths of several tunnels leading away into the dark. Quickly I peeled off suit, socks, shoes, and hid them behind a boulder. The knife I clipped back onto my elastic shorts. I turned the Polaroid lens on myself and pressed the switch.

Transformation seized me. I dropped to the ground as hands and feet became paws. For a minute bones, muscles, organs, nerves were fluid, then they reached their wolf shapes and firmed. I didn't let the quasi-sexual sensation get to me, much. Instead, I held tight in my diminished cerebral cortex the purpose I had, to use animal senses and sinews for my human ends.

The feeble illumination ceased being a handicap. Wolves don't depend on their eyes the way men do. Ears, feet, tongue, every hair on my body, before all else my

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nose, drank a flood of data. The cave was not now a hole to stumble in, it was a place that I understood.

And . . . yes, faint but unmistakable from one tunnel came a gust of unforgettable nastiness. I checked a hunter's yelp barely in time and trotted off in that direction.

The passage was lengthy, twisting, intersected by many others. Without my sense of smell for a guide, I'd soon have been lost. The lighting was from Hands, above the cells dug out of the rock at rare intervals. It was public knowledge that every candidate for primary initiation spent a day and night alone here, and the devout went back on occasion. Allegedly the soul benefitted from undisturbed prayers and meditations. But I wasn't sure what extra influences crept in subliminally as well. Certain odors, at the edge of my lupine perception, raised the fur on my neck.

After a while they were drowned out by the one I was tracing. Wolves have stronger stomachs than people, but I began to gag. When finally I reached the source, I held my breath while looking in.

The dull blue glow from the fingers over the entrance picked out little more than highlights in the cubicle. Marmiadon was asleep on a straw pallet. He wore his robe for warmth; it was as grubby as his skin. Otherwise, he had some hardtack, a jerry can of water, a cup, a Johannine Bible and a candle to read it by. He must only have been leaving his cell to visit an oubliette down the tunnel. Not that it would have made any large difference if he didn't. Phew!

I backed off and humanized. The effluvium didn't strike me too hard in that shape, especially after my restored reasoning powers took charge. No doubt Marmiadon wasn't even noticing it any more.

I entered his quarters, hunkered, and shook him. My free hand drew the knife. "Wake up, you."

He floundered to awareness, saw me, and gasped. I must have been a pretty grim sight, black-clad where I wasn't nude and with no mercy in my face. He looked as bad, hollow-eyed in that corpse-light. Before he could yell, I clapped my palm over his mouth. The unshaved bristles felt scratchy, the flesh dough-like. "Be quiet," I said without emphasis, "or I'll cut your guts out."

He gestured agreement and I let go. "M-m-mister Matuchek," he whispered, huddling away from me till the wall stopped him.

I nodded. "Want to talk with you."

"I—how—in God's name, what about?"

"Getting my daughter home unharmed."

Marmiadon traced crosses and

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other symbols in the air. "Are you possessed?" He became able to look at me and answer his own question. "No. I could tell—"

"I'm not being puppeted by a demon," I grunted, "and I haven't got a psychosis. Talk."

"Bu-bu-but I haven't anything to say. Your daughter? What's wrong? I didn't know you had one."

That rocked me back. He wasn't lying, not in his state. "Huh?" I could only say. He grew a trifle calmer, fumbled around after his glasses and put them on, settled down on the pallet and watched me.

"It's holy truth," he insisted. "Why should I have information about your family? Why should anyone here?"

"Because you've appointed yourselves my enemies," I said in renewed rage.

He shook his head. "We're no man's foe. How can we be? We hold to the Gospel of Love." I sneered. His glance dropped from mine. "Well," he faltered, "we're sons of Adam. We can sin like everybody else. I admit I was furious when you pulled that . . . that trick on us . . . on those innocents—"

My blade gleamed through an arc. "Stow the crap, Marmiadon. The solitary innocent in this whole miserable business is a three-year old girl, and she's been snatched into hell."

His mouth fell wide. His eyes frogged.

"Start blabbing," I said.

For a while he couldn't get words out. Then, in complete horror: "No. Impossible. I would never, never—"

"How about your fellow priests? Which of them?"

"None. I swear it. Can't be." I pricked his throat with the knife point. He shuddered. "Please. Let me know what happened. Let me help."

I lowered the blade, shifted to a sitting position, rubbed my brow and scowled. This wasn't according to formula. "See here," I accused him, "you did your best to disrupt my livelihood. When my life itself is busted apart, what am I supposed to think? If you're not responsible, you'd better give me a lot of convincing."

The initiate gulped. "I . . . yes, surely. I meant no harm. What you were doing, are doing—it's sinful. You're damning yourselves and aiding others to do likewise. The Church can't stand idle. More of its ministers volunteer to help than don't."

"Skip the sermon," I ordered. Apart from everything else, I didn't want him working up enough zeal to stop being dominated by me. "Stick to events. You were sent to abet that mob."

"No. Not—well, I was on the list of volunteers. When this occasion arose, I was the one allowed

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to go. But not to . . . do what you say . . . instead, to give aid, counsel, spiritual guidance—and, well, yes, defend against possible spells—nothing else! You were the ones who attacked."

"Sure, sure. We began by picketing, and when that didn't work we started on trespass, vandalism, blockade, terrorizing—uh-huh. And you were so strictly acting as a private citizen that when you failed, your superiors comforted you, and you're back at your regular work already."

"My penance is for the sin of anger," he said.

A tiny thrill ran along my spine. We'd reached a significant item. "You aren't down here simply because you got irritated with us," I said. "What'd you actually do?"

Fear seized him afresh. He raised strengthless hands. "Please. I can't have—No." I brought my knife close again. He shut his eyes and said fast: "In my wrath, when you were so obdurate, I laid a curse on your group. The Curse of Mabon. My reverend superiors—I don't know how they knew what I'd done, but adepts have abilities—When I returned here, I was taxed with my sin. They told me the consequences could be grave. No more. I wasn't told there . . . there'd been any. Were there really?"

"Depends," I said. "What is this curse?"

"No spell. You do understand the distinction, don't you? A spell brings paranatural forces to—to bear, by using the laws of geotics. Or it summons nonhuman beings or—It's the same principle as using a gun, any tool, or whistling up a dog, Mr. Matuchek. A prayer is different. It's an appeal to the Highest or His cohorts. A curse is nothing except a formula for asking Them to, well, punish somebody. They do it if They see fit—it's Them alone—"

"Recite it."

"*Absit omen!* The danger!"

"You just got through saying it's harmless in itself."

"Don't you know? Johannine prayers are different from Petrine. We're the new dispensation; we've been given special knowledge and divine favor; the words we use have a potency of their own. I can't tell what would happen if I said them, even without intent, under free conditions like these."

That was very possibly right, I thought. The essence of Gnosticism in the ancient world had been a search for power through hidden knowledge, ultimately power over God Himself. Doubtless Marmiadon was sincere in denying his church had revived that particular concept. But he hadn't progressed to adept status; the final secrets had not been revealed to him. I thought, reluctantly, that he wasn't likely to make it, either, being at heart not a bad little guy.

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My mind leaped forward. Let's carry on that idea, I thought in the space of half a second. Let's assume the founders of modern Gnosticism did make some discoveries that gave them capabilities not known before, results that convinced them they were exerting direct influence on the Divine. Let's further suppose they were mistaken—deceived—because hang it, the notion that mortals can budge Omnipotence *is* unreasonable. What conclusion does this lead us to? This: that whether they know it or not, the blessings and curses of the Johannines are in fact not prayers, but peculiarly subtle and powerful spells.

"I can show you the text," Marmiadon chattered. "You can read for yourself. It's not among the forbidden chapters."

"Okay," I agreed.

He lit his candle and opened the book. I'd glanced at Johannine Bibles but never gotten up the steam to get through one. They replaced the Old Testament with something that even a gentile like me considered blasphemous, and followed the standard parts of the New Testament with a lot of the Apocrypha, plus other stuff whose source never has been identified by reputable scholars. Marmiadon's shaky finger touched a passage in that last section. I squinted, trying to make out the fine print. The Greek was paralleled with an English translation, and itself purported to render the meaning of a string of words like those in the canticles upstairs.

Holy, holy, holy. In the name of the seven thunders. O Mabon of righteousness, exceeding great, angel of the Spirit, who watcheth over the vials of wrath and the mystery of the bottomless pit, come thou to mine aid, wreak sorrow upon them that have done evil to me, that they may know contrition and afflict no longer the servants of the hidden truth and the Reign that is to come. By these words be thou summoned, Heliphomar Mabon Saruth Gefutha Enunnas Sacinos. Amen. Amen. Amen.

I closed the book. "I don't go for that kind of invocation," I said slowly.

"Oh, you could recite it aloud," Marmiadon blurted. "In fact, an ordinary communicant of the Church could, and get no response. But I'm a toller. A summoner, you'd call it. Not too high-ranking or skillful; nevertheless, certain masteries have been conferred."

"Ah, s-s-so!" The sickening explanation grew upon me. "You raise and control demons in your regular line of work—"

"Not demons. No, no, no. Ordinary paranatural beings for the most part. Occasionally a minor angel."

"You mean a thing that tells you it's an angel."

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"But it is!"

"Never mind. Here's what happened. You say you got mad and spoke this curse, a black prayer, against us. I say that knowingly or not, you were casting a spell. Since nothing registered on detectors, it must've been a kind of spell unknown to science. A summons to something from out of this universe. Well, you Johnnies do seem to've acquired a pipeline to another world. You believe, most of you, that world is Heaven. I'm convinced you're fooled; it's actually hell."

"No," he groaned.

"The demon answered your call. It happened that of the Nornwell people around, my wife and I had the one household exposed that night to his action. So the revenge was worked on us."

Marmiadon squared his puny shoulders. "Sir, I don't deny your child is missing. But if she was taken . . . as an unintended result of my action . . . well, you needn't fear."

"When she's in hell? Supposing I got her back this minute, what'll that place have done to her?"

"No, honestly, don't be afraid." Marmiadon ventured to pat my hand where it clenched white-knuckled around the knife. "If she were in the Low Continuum, retrieval operations would involve temporal phasing. Do you know what I mean? I'm not learned in such matters myself, but our adepts are, and a portion of their findings is taught to initiates, beginning at the fourth degree. The mathematics is beyond me. But as I recall, the hell universe has a peculiar, complex space-time geometry. It would be as easy to recover your daughter from the exact instant when she arrived there as from any other moment."

The weapon clattered out of my grasp. A roar went through my head. "Is that the truth?"

"Yes. More than I'm canonically allowed to tell you—"

I covered my face. The tears ran out between my fingers.

"—but I want to help you, Mr. Matuchek. I repent my anger." Looking up, I saw him cry too.

After a while we were able to get to business. "Of course, I must not mislead you," he declared. "When I said it would be as easy to enter hell at one point of time as another, I did not mean it would not be difficult. Insuperably so, indeed, except for our highest adepts. No geometers are alive with the genius to find their way independently through those dimensions.

"Fortunately, however, the question doesn't arise. I just wanted to reassure you enough so you'd listen to the real case. It may be that your daughter was removed in answer to my curse. That would account for the displeasure of my superiors with me. But if so, she's under angelic care."

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"Prove it," I challenged.

"I can try. Again, I'm breaking the rules. Still, I can try to summon an angel." He smiled timidly at me. "Who knows? If you recant, your girl could be restored to you on the spot."

I didn't like the idea of a Calling. In fact, I was bloody well chilled by it. But I was prepared to face worse than devils on this trip. "Go ahead."

He turned his Bible to another passage. Kneeling, he started to chant, a high-pitched rise and fall which sawed at my nerves.

A wind blew down the tunnel. The lights didn't go out, but a dimness came over my eyes, deepening each second, as if I were dying, until I stood alone in a whistling dark. And the night was infinite and eternal; and the fear left me, but in its place there fell absolute despair. Never had I known a grief like this—not when Valeria was taken, not when my mother died—for now I had reached the final end of every hope and looked upon the ultimate emptiness of all things: love, joy, honor were less than ash, they had never been, and I stood hollow as the only existence in hollow creation.

Far, far away a light was kindled. It moved toward me, a spark, a star, a sun. I looked upon the vast mask of a face, into the lifeless eyes; and the measured voice beat through me:

"The hour is here. Despite everything, your destiny was endured, Steven. It was not my will or my planning. I foresaw the danger that you would wreck my newest great enterprise. But I could not know what would bring you to confront my works: the thoughtless call of one fool, the rash obedience of another. Now you would seek to storm my inner keep.

"Be afraid, Steven. I may not touch you myself, but I have mightier agents to send than those you met before. If you go further against me, you go to your destruction. Return home; accept your loss as humbly as befits a son of Adam; beget other children, cease meddling in public matters, attend solely to what is your own. Then you shall have pleasure and wealth and success in abundance, and your days shall be long in the land. But this is if you make your peace with me. If not, you will be brought down, and likewise those you care for. Fear me."

The sight, the sound, the blindness ended. I sagged, wet and areek with sweat, looking stupidly at Marmiadon in the candlelight. He beamed and rubbed his hands. I could scarcely comprehend him:

"There! Wasn't I right? Aren't you glad? Wasn't he glorious? I'd be down on my knees if I were you, praising God for His mercy."

"Hu-u-uh?" dragged out of me.

"The angel, the angel!"

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I shook myself. My heart was still drained. The world felt remote, fragile. But my brain functioned, in a mechanical fashion. It made my lips move. "I could have seen a different aspect of the being. What happened to you?"

"The crowned head, the shining wings," he crooned. "Your child is safe. She will be given back to you when your penitence is complete. And because of having been among the blessed in her mortal life, she will become a saint of the true Church."

Well, trickled through my head, this doubtless isn't the first time the Adversary's made an instrument of people who honestly believe they're serving God.

"What did you experience?" Marmiadon asked.

I might or might not have told him my revelation. Probably not; what good would that have done? A sound distracted us both—nearing footsteps, words.

"What if he hasn't been here?"

"We'll wait for some hours."

"In this thin garb?"

"The cause of the Lord, brother."

I stiffened. Two men coming: monks, from the noise of their sandals; big, from its volume on the stone. The adept I met upstairs must have grown suspicious; or Marmiadon's invocation and its effect had registered elsewhere; or both. If I got caught—I'd been warned. And my existence was beyond price, until I could get home the information that might help rescue Val.

I turned the flash on myself. Marmiadon whimpered as I changed shape. I went out in a single gray streak.

The pair of monks didn't see me through the gloom until I was almost on them. They were beefy for sure. One carried a stick, the other a .45 automatic. I darted between the legs of the latter, bowling him over. His buddy got a crack across my ribs with his cudgel. Pain slowed me for a moment. A bone may have been broken. It knitted with the speed of the werewolf condition, and I dashed on. The pistol barked. Slugs whanged nastily past. If they included argent rounds, a hit would stop me. I had to move!

Up the stairs I fled. The friars dropped from sight. But an alarm started ahead of me, bells crashing through the hymns. Did my pursuers have a walkie-talkie ball with them? Produced at Nornwell? I burst into the first-floor hallway. There must be other exits than the main door, but I didn't know them. A wolf can travel like bad news. I was through the curtain which screened off the choir vestry before any night-shifter had glanced out of an office or any sleepy monk arrived from another section.

The church was in a boil. I

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cracked the door to the aisle sufficiently for a look. The chant went on. But folk ran about in the nave, shouting. More to the point, a couple of them were closing the doors to the vestibule. I couldn't get out.

Feet slapped the floor in the corridor. The Johnnies weren't certain which way I'd skittered and were confused anyhow by this sudden unexplained emergency. Nevertheless, I'd scant time until someone thought to check here.

A possible tactic occurred to me. I didn't consider the wherefores of it, which a wolf isn't equipped to do. Trusting instinct, I slapped the switch on my flash with a forepaw. The blue entryroom lights didn't interfere with my reverting to human. Darting back to the vestry, I grabbed a surplice and threw it over my head. It fell nearly to my feet. They stayed bare, but maybe no one would notice.

Ascending to the choir loft in record time, I stopped in the archway entrance and studied the situation. Men and women stood grouped according to vocal range. They held hymnals. Spare books lay on a table. The view from here, down to the altar and up to the cupola, was breathtaking. But I'd no breath to spend. I picked my spot, helped myself to a book, and moved solemnly forward.

I wouldn't have gotten away with it under normal conditions. Conditions not being normal, the choir was agitated too, its attention continually pulled down to the excitement on the floor. The song kept wandering off key. I found a place on the edge of the baritones and opened my hymnal to the same page as my neighbor.

"Mephnounos Chemiath Aroura Maridon Elison," he chanted. I'd better make noises likewise. The trouble was, I'd not had the rehearsals they gave to laymen who wanted to participate. I couldn't even pronounce most of those words, let alone carry the tune.

My neighbor glanced at me. He was a portly, officious-looking priest. I gave him a weak smile. *"Thatis Etelelam Tetheo Abocia Rusar,"* he intoned in a marked manner.

I grabbed at the first melody I recalled which had some general resemblance to the one he was using. Mushing it up as much as I dared, I studied my book and commenced:

"A sailor told me before he died—

I don't know whether the bastard lied—"

In the general counterpoint, not to mention the uproar below, it passed. The cleric took his eyes off me. He continued with the canticle and I with *The Big Red Wheel.*

I trust I may be forgiven for some of the other expedients I found necessary in the hour that

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followed. An hour, I guessed, was an unsuspicious time for a lay singer to stay. Meanwhile, by eye and ear, I followed roughly the progress of the hunt for me. The size and complexity of the cathedral worked in my favor for once; I could be anywhere. Unquestionably, spells were being used in the search. But the wizards had little to go on except what Marmiadon could tell. And I had everything protective that Ginny, who's one of the best witches in the Guild, was able to give me before I left. Tracing me, identifying me, would be no simple matter, even for those beings that the most potent of the adepts might raise.

Not that I could hold out long. If I didn't scramble soon I was dead, or worse. A part of me actually rejoiced at that. You see, the danger, the calling up of every resource I had to meet it, wiped away the despair at the core of hell which I had met in the crypts. I was alive, and it mattered, and I'd do my best to kill whatever stood between me and my loves!

After a while I figured out a plan. Leaving the choir and disrobing, I turned wolf. The north corridor was again deserted, which was lucky for any Johnnies I might have encountered. Having doubtless posted a guard at every door, they were cooling their chase. It went on, but quietly, systematically, no longer disruptive of the religious atmosphere. Lupine senses helped me to avoid patrols while I looked for a window.

On the lower levels, these were in rooms that were occupied or whose doors were locked. I had to go to the sixth floor—where the scent of wrongness was almost more than I could bear—before finding a window in the corridor wall. It took resolution, or desperation, to jump through. The pain as the glass broke and slashed me was as nothing to the pain when I hit the concrete beneath.

But I was lyco. My injuries were not fatal or permanently crippling. The red rag of me stirred, grew together, and became whole. Sufficient of my blood was smeared around, unrecoverable, that I felt a bit weak and dizzy; but a meal would fix that.

The stars still glittered overhead. Vision was uncertain. And I doubted the outer watchmen had been told much, if anything. The hierarchy would be anxious to hush this trouble up as far as might be. I stripped off what remained of my clothes with my teeth, leaving the wereflash fairly well covered by my ruff, and trotted off to the same place where I'd entered. "Why, hullo, pooch," said the gatekeeper. "Where'd you come from?" I submitted to having my ears rumpled before I left.

In Siloam's darkened downtown I committed a fresh crime, shoving through another window, this time in the rear of a grocery store.

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Besides the several pounds of hamburger I found and ate, I needed transportation; and after humanizing, I was more than penniless, I was naked. I phoned Barney. "Come and get me," I said. "I'll be wolf at one of these spots." I gave him half a dozen possibilities, in case the pursuit of me spilled beyond cathedral boundaries.

"What happened to my broom?" he demanded.

"I had to leave it parked," I said. "You can claim it tomorrow."

"I'm eager to hear the story."

"Well, it was quite a night, I can tell you."

My detailed relation I gave to Ginny after sneaking back into our house. I was numb with exhaustion, but she insisted on hearing everything at once, whispered as we lay side by side. Her questions drew each last detail from me, including a lot that had slipped my mind or that I hadn't especially noticed at the time. The sun was up before she fixed my breakfast and allowed me to rest. With a few pauses for nourishment and drowsy staring, I slept a full twenty-four hours.

Ginny explained this to our FBI man as the result of nervous prostration, which wasn't too mendacious. She also persuaded him and his immediate boss (Shining Knife had gone to Washington) that if they wanted to keep matters under wraps, they'd better not hold us incommunicado. Our neighbors already knew something was afoot. They could be stalled for but a short while, our close friends and business associates for a shorter while yet. If the latter got worried, they could bring more to bear in the way of sortileges than the average person.

The upshot was that we kept our guest. When Mrs. Delacorte dropped around to borrow a gill of brimstone, we introduced him as my cousin Louis and mentioned that we'd sent Val on an out-of-town visit while our burglary was being investigated. It didn't rate more than a paragraph on an inside page of the daily paper. I was allowed to work again, Ginny to go shopping. We were told what number to call if we received any demands. Nothing was said about the men who shadowed us. They were good; without our special skills, we'd never have known about them.

On the third morning, therefore, I showed at Nornwell. Barney Sturlason was primed. He found a do-not-disturb job for me to do in my office—rather, to fake doing while I paced, chain-smoked my tongue to leather, drank coffee till it gurgled in my ears—until time for an after-lunch conference with some outside businessmen. I knew what that conference was really to be about. When the intercom asked me go there, I damn near snapped my head off ac-

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celerating before I remembered to walk the distance and say hello to those I passed.

The meeting room was upstairs. Its hex against industrial espionage operated equally well against official surveillance. Barney bulked at the end of the table, collar open, cigar fuming. The assembled team comprised eleven, to help assure we'd harbor no Judas. I knew Griswold, Hardy, Janice Wenzel and, slightly, Dr. Nobu, a metaphysician we sometimes consulted. Another man turned out to be a retired admiral, Hugh Charles, who'd specialized in intelligence; another was a mathematician named Falkenberg; another was Pastor Karlslund from Barney's church. All of these looked weary. They'd toiled like galley slaves, practically up to this minute. The last pair seemed fresh, and totally undistinguished except that one had a large sample case which he'd put on the table.

Before he introduced them, Barney made a pass and spoke a phrase. "Okay," he said, "the security field is back at full strength. Come on out and join the covin."

Their figures blurred, went smoky, and firmed again as the Seeming passed. Ginny's hair gleamed copper in the sunlight from the windows. Dr. Ashman opened the case. Svartalf poured forth, restored to health, big, black, and arrogant as ever. "Mee-owr-r-r," he scolded us. The pastor offered the cat a soothing hand. I didn't have time to warn him. Luckily, Ashman was in the habit of carrying Band-Aids. Svartalf sat down by Ginny and washed himself.

"How'd you manage it?" the admiral asked with professional interest.

Ginny shrugged. "Simple. Barney told the doctor on the QT what to do and when. He fetched Svartalf at the hospital. We'd already verified there was no tail on him." Svartalf switched his in a smug fashion. "Meanwhile I'd gone downtown. They're having a sale at Perlman's. Easiest crowd in the world to disappear into, and who'd notice a bit of sorcery? Having changed my looks, I rendezvoused with Dr. Ashman and altered him." Svartalf threw the man a speculative look. "We proceeded here. Barney had the field low enough that it didn't whiff our disguises when we crossed it."

She opened her purse, which hadn't needed much work to resemble a briefcase, got out her vanity and inspected her appearance. In demure makeup and demure little dress, she hardly suggested a top-flight witch, till you noticed what else she was packing along.

"To business," Barney said. "We informed this team at once of what you'd discovered, Steve. It was a scientific as well as religious and political jolt. I think

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we better review that second aspect before we go on to discuss what can maybe be done about it."

"If the Johannine Church is indeed of diabolic origin—" Griswold grimaced. "I hate to believe that. Not that I agree with its tenets, but—well, are you sure, Mr. Matuchek, that the vision you had in the cell was not actually a hallucination?"

"If the Johnnies are legit," my wife clipped, "why are they keeping quiet? They ought to have filed a complaint or something. But never a peep, not even when Barney's man fetched back his broomstick. I say they can't risk an investigation."

"They might be trying to get your daughter returned to you through their paranatural contacts," Hardy suggested without conviction.

Admiral Charles snorted. "Big chance! I don't doubt the Adversary would like to cancel the whole episode. But how? He can return her with zero time-lapse in hell, you say, Mr. Matuchek—quite astounding, that. Nevertheless, I don't imagine he can change the past: the days we've lived without her, the things we've learned as a consequence."

"Our silence could be her ransom," Hardy said.

"What man would feel bound by that kind of bargain?" the admiral replied.

Karlslund added, "No contracts can be made the with Low Ones anyhow. Being incapable of probity, a devil is unable to believe humans won't try to cheat him."

"So," Charles said, "he'd gain nothing by releasing her, and lose whatever hostage value she has."

Ashman said painfully, "He's already succeeded in dividing the forces of good. I get the impression this meeting is in defiance of the government, an actual conspiracy. Is that wise?"

"Let me handle that question," Barney said. "I've got connections in Washington, and Admiral Charles, who has more, confirms my guess as to what's going on there. The facts of the kidnaping are being officially suppressed. The reason is mainly fear—of the consequences; there *are* a lot of Johnny voters—though ordinary bureaucratic inertia enters in, too. If no further obvious outrages take place, the government won't move. And we know that's to be the case. This kidnaping was a bad mistake by someone on the Adversary's side."

He halted to rekindle his cigar. The room had become very still as we listened. Smoke filled the sunbeams with blue strata and our nostrils with staleness. Ginny and I exchanged a forlorn look across the table. Yesterday I'd gone into the basement to replace a blown fuse. She'd come along, because these days we stayed together when we could. Some things of

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Valeria's stood on a shelf, lately outgrown and not yet discarded. The ever-filled bottle, the Ouroboros teething ring, the winged training spoon, the little pot with a rainbow at the end— We went upstairs and asked our guard to change the fuse.

"Therefore," Barney said, "as of today, we, this bunch of us, have the right and duty to take what action we can.

"You see, Doctor, we've done nothing technically unlawful. Steve was not under arrest. He was free to go where he chose, in any manner he wished. At most, he committed a civil tort, invading private sections of the cathedral. Let the hierarchy sue him for damages if it wants to. It won't; its monks committed a felonious assault on him!

"Likewise, we aren't contemplating any crime and thus we aren't conspiring. I grant you, soon the National Defense Act is likely to be invoked against us. That's one reason we have to move fast. But at present we are still legally free to do what we have in mind."

"Also," said Falkenberg, "as I understand the situation, the, ah, enemy are off balance at present. Mr. Matuchek took them by surprise. Evidently the, ah, Adversary is debarred from giving them direct help, counsel, or information. Or else he considers it inadvisable, as it might provoke intervention by the Highest. The, ah, Johannine Magi can do extraordinary things, but they are not omniscient or omnipotent. They can't be sure what we have learned and what we will attempt. Give them time, however, in this universe, and they will, ah, recover their equilibrium, quite possibly make some countermove."

Ginny said out of her Medusa mask, "Whatever the rest of you decide, Steve and I won't sit waiting."

"Blazes, no!" ripped from me. Svartalf laid back his ears, fangs gleamed amidst his whiskers, and the fur stood up on him.

"This group is already resolved to help you," Barney said.

Eyes went from us to Ashman. He flushed and said, "I'm not going henhouse on you. Remember, all this has just been sprung on me without warning. I'm bound to raise the arguments that occur to me. I don't believe that encouraging Valeria's parents to commit suicide will do her any good."

"What do you mean?" Barney asked.

"Do I misunderstand? Isn't your intention to send Steven and Virginia—my patients—into the hell universe?"

That brought me up cold. I'd been ready and raging for action, but now the heart slammed in me. I stared at Ginny. She nodded.

The whole conference registered various degrees of dismay. I scarcely noticed the babble that

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lifted or Barney's quelling of it. Finally we all sat in a taut-strung silence.

"I must apologize to this committee," Barney said. His tone was deep and measured as a vesper bell's. "I set you separately onto various aspects of a study of the Low Continuum. You did magnificently, especially in making the conceptual breakthrough after you got Steve's findings to work with. But you were too busy to think beyond your assignments, or to imagine it was more than a long-range, rather hypothetical study: something that might eventually give us capabilities against further troubles of this nature.

"I saw no alternative to handling it that way. But Ginny Matuchek reached me meanwhile, surreptitiously. I gave her the whole picture, we discussed it at length and evolved a plan of campaign." He bowed slightly toward Ashman. "Congratulations on your astuteness, Doctor."

She knew, I thought in the shards of thinking, and yet no one could have told it on her, not even me.

She raised her hand. "The case is this," she said with the same military crispness as when first I'd met her. "A small, skilled team has a chance of success. A large, unskilled bunch has none. It'd doubtless suffer catastrophe."

"Death, insanity, or imprisonment in hell with everything that that implies—" Ashman whispered. "You assume Steven will go."

"I know better than to try stopping him," she said.

That gave me a measure of self-control again. I was not unconscious of admiring glances. But mainly I listened to her:

"He and I and Svartalf are as good a squad as you'll find. If anybody has a hope of pulling it off, we do. The rest of you can help with preparations and with recovering us. If we don't return, you'll be the repositories of what has already been learned. Because those discoveries are vitally important in themselves—just like anything else we may find out."

Ashman hesitated before saying, with a kind of smile, "All right, I apologize. You must admit my reaction was natural, and I'm still afraid for you. But you have my support. May I ask what your scheme is?"

Barney relaxed a trifle. "You may," he said. "Especially since we've got to explain it to some of the others."

He stubbed out his cigar and began on a fresh one. "Let me put the proposition in nickel words first," he said, "then the experts can correct and amplify according to their specialties. Our universe has a straightforward space-time geometry. Hell's doesn't. Demons know how to move around through those wildly contorted and vari-

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able dimensions. Men don't. They can get there, but are then practically helpless. Or were, until today.

"You see, Steve's information that we could reach any point in hell-time opened a door or broke a logjam or something. Suddenly there was a definite basic fact to go on, a relationship between the Low Continuum and ours that could be mathematically described. Dr. Falkenberg set up the equations and started solving them for different conditions. Professor Griswold and Bill Hardy helped by suggesting how the laws of nature would be affected. Oh, we've barely begun, and our conclusions haven't been subjected to experimental test. But at least they've enabled Dr. Nobu and me to design some spells. We completed them this morning. They should project the expedition, give it some guardianship when it arrives, and haul it back fast. That's more than anybody previous had going for them."

"Insufficient." Charles was the new objector. "You can't have a full description of the hell universe —why, we don't have that even for this cosmos—and you absolutely can't predict what crazy ways the metric there varies from point to point."

"True," Barney said.

"So protection which is adequate at one place will be useless elsewhere."

"Not if the space-time configuration can be described mathematically as one travels. Then the spells can be adjusted accordingly."

"What? But that's an impossible job. No mortal man—"

"Right," Ginny said.

We gaped at her.

"A passing thing Steve heard, down in the crypts, was the clue," Ginny said. "Same as your remark, actually, Admiral. No mortal man could do it. But the greatest geometers are dead."

A gasp went around the table.

With appropriate Seemings laid on, and Svartalf indignantly back in the sample case, our committee left the plant on a company carpet. It was now close to four. If my FBI shadow didn't see me start home around five or six o'clock, he'd get suspicious. But there wasn't a lot I could do about that.

We landed first at St. Olaf's, while Pastor Karlslund went in to fetch some articles. Janice Wenzel, seated behind Ginny and me, leaned forward and murmured, "I guess I'm ignorant, but isn't this appealing to the saints a Catholic rather than a Lutheran thing?"

The question hadn't been raised at the conference. Karlslund was satisfied with making clear the distinction between a prayer—a petition to the Highest, with any spells we cast intended merely to ease the way for whoever might

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respond—and an illegitimate attempt at necromancy.

"I doubt if the sect makes any odds," Ginny said. "What is the soul? Nobody knows. The observations that prove it exists are valid, but scattered and not repeatable under controlled conditions. As tends to be the case for many paranatural phenomena."

"Which, however," Dr. Nobu threw in, "is the reason in turn why practical progress in goetics is so rapid once a correct insight is available. For example, three days after learning about the time-variability of hell, we feel some confidence that our new spells will work. The numerical details just aren't as important as in physical technology . . . but as for the soul, I incline to the belief that its nature is supernatural rather than paranatural."

"Not me," Ginny said. "I'd call it an energy structure that's formed by the body but outlives the physical matrix. Once free, it can easily move between universes. If it hangs around here for some reason like remorse, isn't that a ghost? If the Highest allows it to come nearer His presence, isn't that Heaven? If the Lowest has more attraction for it, isn't that damnation? If it enters a newly fertilized ovum, isn't that reincarnation?"

"Dear me," Janice said. Ginny uttered a brittle laugh.

Barney turned around in the pilot's seat. "About your question that started this seminar, Janice," he said, "it's true we Lutherans don't make a habit of calling on the saints. But neither do we deny that they sometimes intervene. And I've known Jim Karlslund for years, I know he's trustworthy . . . and here he comes, too, with an armful of ecclesiastical gear."

We took off again and proceeded to Trismegistus University. Sunlight slanted gold across lawns, groves, buildings. Few persons were about in this pause between spring and summer sessions; a hush lay over the campus, distantly backgrounded by the city's whirr. I glanced at Ginny, but her face had gone unreadable.

We landed and entered the physical sciences hall. Griswold had keys to every lab and stockroom there. Karlslund would have preferred the chapel, but that was too public. Besides, probably the religious part of our undertaking was secondary.

The pastor's appeal ought to have the elements of unselfishness and devotion, without which no saint was apt to respond. But they seldom do anyway. The Highest expects us to solve our own problems. What we relied on—what gave us a degree of confidence we would get some kind of reaction—was the progress we'd made, the direct access we believed we had to the Adversary's realm and our

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stiff resolve to use it. The implications were too enormous for Heaven to ignore . . . we hoped.

I thought, in the floating lightheadedness to which stress had brought me: Maybe we'll be forbidden to try.

Our site was the Berkeley Philosophical Laboratory. It was large, new, and splendidly outfitted. Light fell cool through gray-green glass in the Gothic windows. Zodiacal symbols encircled a golden Bohr atom on the ceiling. You'd never find a place further in spirit from that cathedral in Siloam. My kind of people had raised this.

Griswold locked the door. Ginny took off the Seemings and let Svartalf out. He padded into a corner, tail going like a metronome. Karlslund set up his sacred objects, improvising an altar on a bench. The rest of us worked under Barney. We established a shield-field and an anti-spy hex in the usual way. Next we prepared to open the gates between universes.

You can look up in the manuals what we used to help our hoped-for saint reach us: Bible and Poimanderes opened to the right passages, menorah with seven tall candles lit by flint and steel, vial of pure air, chest of consecrated earth, horn of Jordan water, Pythagorean harp. According to Petrine doctrine, the effect was symbolic more than physical, just as our prayer would simply be an earnest of the appeal which God had already read in our hearts.

Hell is another case entirely. In physical terms, it's on a lower energy level than our universe. In spiritual terms, the Adversary and his minions aren't interested in assisting us to anything except our destruction. We could definitely force our way in and overpower them—if we swung enough power!

I am not going to reveal what our new spells were by which we meant to attempt that. You might guess they involved an inversion of the prayer ritual, so I'll state we employed these articles: a certain one of the Apocrypha, a Liber Veneficarum, a torch, a globe of wind from a hurricane, some mummy dust, thirteen drops of blood, and a sword. I don't swear to the truthfulness of my list.

We didn't expect we'd require that stuff right away, but it was another demonstration of intent. Besides, Ginny needed a chance to study it and use her trained intuition to optimize the layout.

Karlslund's bell called us. We assembled before his altar. "I must first consecrate this and hold as full a service as possible," he announced. I looked at my watch—damn near five—but dared not object. His feeling of respect for due process was vital.

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Curiously, though, as that simple rite proceeded, I began to enjoy a measure of peace and a sense of wordless wonder.

"Our Father, Who art in Heaven—"

There was a knock on the door.

I didn't notice at first. But it came again, and again, and a voice trickled through the heavy panels: "Dr. Griswold! Are you in there? Phone call for you. A Mr. Shining Knife.—Says it's urgent."

That rocked me. My mood went smash. Ginny's nostrils dilated and she clutched her prayerbook as if it were a weapon. Karlslund's tones faltered.

Griswold pattered to the door and said to the janitor or whoever it was: "Tell him I've a delicate experiment under way. It can't be interrupted. Get his number and I'll call back in an hour or so."

Good for you! half of me wanted to shout. The rest was tangled in cold coils of wondering about God's mercy.

Somehow we struggled through with our service. At the end, Karlslund said, troubled: "I'm not sure we're going to get anywhere now. The proper reverence seems to be lost. But I suppose we may as well try. What exact help do you wish?"

Barney, Ginny, and the rest exchanged blank looks. I realized that in the rush they'd forgotten to specify that. It probably hadn't seemed urgent, since Heaven is not as narrowly literal-minded as hell.

Barney cleared his throat. "Uh, the idea is," he said, "that a first-rank mathematician would go on learning, improving, gaining knowledge and power we can't guess at, after passing on. We want a man who pioneered in non-Euclidean geometry."

"Riemann is considered definitive," Falkenberg told us, "but he built on the work of others. I'd suggest, well, Lobachevsky. He was the first to prove a geometry can be self-consistent that denies the axiom of parallels. Around 1830 or 1840 as I recall, though the history of mathematics isn't my long suit. Everything in that branch of it stems from him."

"That'll do," Barney decided, "considering we don't know if we can get any particular soul for an ally. Any whatsoever, for that matter," he added raggedly. To Falkenberg: "You and the pastor work out the words while we establish the spell."

That took time also, but kept us busy enough that we didn't worry about what Shining Knife might be up to. We made the motions, spoke the phrases, directed the will, felt the indescribable stress of energies build toward breaking point. This was no everyday hex, it was heap big medicine.

Shadows thickened. The seven candle flames burned unnaturally

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tall. The symbols overhead glowed with their own radiance and began slowly turning. The harp played itself, strings plangent with the music of the spheres. Weaving my way across the unseen floor as one of the seven who trod the slow measures of the *bransle grave,* I heard a voice cry: "Aleph!" and long afterward: "Zain."

At that we halted, the harp ceased, the eternal silence of the infinite spaces fell upon us, and the pastor made his appeal.

"—we beg that Thou allow them a guide and counselor through the wilderness of hell. We ask that Thou commend unto them Thy departed servant Nikolai Ivanovitch Lobachevsky, or whoever else may be knowledgeable in these matters as having been on earth a discoverer of them. This do we pray in the name of the Father, and of the Son, and of the Holy Ghost. Amen."

There was another stillness.

Then the cross on the altar shone forth, momentarily sunbright, and we heard one piercing, exquisite note, and I felt within me a rush of joy I can only vaguely compare to the first winning of first love. But another noise followed, as of a huge wind. The candles went out, the panes went black, we staggered when the floor shook beneath us. Svartalf screamed.

"Ginny!" I heard myself yell. Simultaneously I was whirled down a vortex of images, memories, a bulbous-towered church on an illimitable plain, a dirt track between rows of low thatch-roofed cottages and a horseman squeaking and jingling along with saber at belt, an iron winter that ended in thaw and watery gleams and returning bird-flocks and shy breath of green across the beechwoods, a disordered stack of books, faces, faces, hands, a woman who was my wife, a son who died too young, half of Kazan in one red blaze, the year of the cholera, the letter from Göttingen, loves, failures, blindness closing in day by slow day; *and none of it was me.*

A thunderclap rattled our teeth. The wind stopped, the light came back, the sense of poised forces was no more. We stood bewildered in our ordinary lives. Ginny cast herself into my arms.

"Lyubimyets," I croaked to her, "no, darling—*Gospodny pomiluie* —" while the kaleidoscope gyred within me. Svartalf stood on a workbench, back arched, tail bottled, not in rage but in panic. His lips, throat, tongue writhed through a ghastly fight with sounds no cat can make. He was trying to talk.

"What's gone wrong?" Barney roared.

Ginny took over. She beckoned to the closest men. "Karlslund,

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Hardy, help Steve," she rapped. "Check him, Doc." I heard her fragmentarily through the chaos. My friends supported me. I reached a chair, collapsed, and fought for breath.

My derangement was short. The recollections of another land, another time, stopped rocketing forth at random. They had been terrifying because they were strange and out of my control. *Poko'y* sounded in my awareness, together with *Peace,* and I knew they meant the same. Courage lifted. I sensed myself thinking, with overtones of both formalism and compassion:

—I beg your pardon, sir. This re-embodiment confused me likewise. I had not paused to reflect what a difference would be made by more than a hundred years in the far realms where I have been. A few minutes will suffice, I believe, for preliminary studies providing the informational basis for a modus vivendi that shall be tolerable to you. Rest assured that I regret any intrusion and will minimize the same. I may add, with due respect, that what I chance to learn about your private affairs will doubtless be of no special significance to one who has left the flesh behind him.

Lobachevsky! I realized.

—Your servant, sir. Ah, yes, Steven Anton Matuchek. Will you graciously excuse me for the necessary brief interval?

This, and the indescribable stirring of two memory sets that followed, went on at the back of my consciousness. The rest of me was again alert: uncannily so. I waved Ashman aside with an "I'm okay" and scanned the scene before me.

In Svartalf's hysterical condition, he was dangerous to approach. Ginny tapped a basin of water at a workbench sink and threw it over him. He squalled, sprang to the floor, dashed to a corner, crouched and glowered. "Poor puss," she consoled. "I had to do that." She found a towel. "Come here to mama and we'll dry you off." He made her come to him. She squatted and rubbed his fur.

"What got into him?" Charles asked.

Ginny looked up. Against the red hair her face was doubly pale. "Good phrase, Admiral," she said. "Something did. I shocked his body with a drenching. The natural cat-reflexes took over, and the invading spirit lost its dominance. But it's still there. As soon as it learns its psychosomatic way around, it'll try to assume control and do what it's come for."

"Which is?"

"I don't know. We'd better secure him."

I rose. "No, wait," I said. "I can find out." Their eyes swiveled toward me. "You see, uh, I've got Lobachevsky."

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"What?" Karlslund protested. "His soul in your—Can't be! The saints never—"

I brushed past, knelt by Ginny, took Svartalf's head between my hands, and said, "Relax. Nobody wants to hurt you. My guest thinks he understands what's happened. Savvy? Nikolai Ivanovitch Lobachevsky is his name. Who are you?"

The muscles bunched, the fangs appeared, a growing ululation swept the room. Svartalf was about to have another fit.

—Sir, by your leave, the thought went in me. He is not hostile. I would know if he were. He is disconcerted at what has occurred, and has merely a feline brain to think with. Evidently he is unacquainted with your language. May I endeavor to calm him?

Russian purled and fizzled from my lips. Svartalf started, then I felt him ease a bit in my grasp. He looked and listened as intently as if I were a mousehole. When I stopped, he shook his head and mewed.

—So he was not of my nationality either. But he appears to have grasped our intent.

Look, I thought, you can follow English, using my knowledge. Svartalf knows it too. Why can't his . . . inhabitant . . . do like you?

—I told you, sir, the feline brain is inadequate. It has nothing like a human speech-handling structure. The visiting soul must use every available cortical cell to maintain bare reason. But it can freely draw upon its terrestrial experience, thanks to the immense data storage capacity of even a diminutive mammalian body. Hence we can use what languages it knew before.

I thought: I see. Don't underrate Svartalf. He's pure-bred from a long line of witch familiars, more intelligent than an ordinary cat. And the spells that've surrounded him through his life must've had effects.

—Excellent. *"Sprechen Sie Deutsch?"*

Svartalf nodded eagerly. "Mee-oh," he said with an umlaut.

"Guten Tag, gnadiger Herr. Ich bin der Mathematiker Nikolai Iwanowitsch Lobatschewski, quondam Oberpfarrer zu der Kasans Universitat in Russland. Je suis votre tres humble serviteur, Monsieur." That last was in French, as politeness called for in the earlier nineteenth century.

"W-r-r-rar-r." Claws gestured across the floor.

Ginny said, wide-eyed with awe: "He wants to write. . . . Svartalf, listen. Don't be angry. Don't be afraid. Don't fight, help him. There's a good cat." She rubbed him under the chin. It didn't seem quite the proper treatment for a visiting savant, but it worked, because at last he purred.

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While she and Griswold made preparations, I concentrated on meshing with Lobachevsky. The rest stood around, shaken by what had happened and the sudden complete unknownness of the next hour. A fraction of me hearkened to their low voices.

Charles: "Damnedest apparition of saints I ever heard of."

Karlslund: "Admiral, please!"

Janice: "Well, it's true. They shouldn't have intruded in bodies like, like demons taking possession."

Griswold: "Maybe they had to. We did neglect to provide counter-transferal mass for inter-continuum crossing."

Karlslund: "They aren't devils. They never required it in the past."

Barney: "Whoa! Let's think about that. A spirit or a thought can travel free between universes. Maybe that's what returned saints always were—visions, not solid bodies."

Karlslund: "Some were positively substantial."

Nobu: "I would guess that a saint can utilize any mass to form a body. Air, for instance, and a few pounds of dust for minerals, would provide the necessary atoms. Don't forget what he or she is, as far as we know: a soul in Heaven, which is to say one near God. How can he fail to gain remarkable abilities as well as spiritual eminence—from the Source of power and creativity?"

Charles: "What ails these characters, then?"

"Messieurs," my body said, stepping toward them, "I beg your indulgence. As yet I have not entirely accustomed myself to thinking in this corporeal manifold. Do me the honor to remember that it is unlike the one I originally inhabited. Nor have I assimilated the details of the problem which led to your request for help. Finally, while confined to human form, I have no better means than you for discovering the identity of the gentleman in the cat. I do believe I know his purpose, but let us wait, if you will, for more exact knowledge before drawing conclusions."

"Wow!" Barney breathed. "How's it feel, Steve?"

"Not bad," I said. "Better by the minute." That was an ultimate understatement. As Lobachevsky and I got acquainted, I felt in myself, coexistent with my own thoughts and emotions, those of a being grown good and wise beyond imagining.

Of course, I couldn't share his afterlife, nor the holiness thereof. My mortal brain and grimy soul didn't reach to it. At most, there sang at the edge of perception a peace and joy which were not static but a high eternal adventure. I did, though, have the presence of Lobachevsky the man to savor. Think of your oldest and

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best friend and you'll have a rough idea what that was like.

"We should be ready now," Ginny said.

She and Griswold had set a Ouija board on a bench, the easiest implement for a paw to use. Svartalf took a position at the gadget, while I leaned across the opposite side to interrogate.

The planchette moved in a silence broken only by breathing. It was sympathetic with a piece of chalk under a broomstick spell, that wrote large on a blackboard where everyone could see.

ICH BIN JANOS BOLYAI VON UNGARN

"Bolyai!" gasped from Falkenberg. "God, I forgot about him! No wonder he—but how—?"

"Enchante, Monsieur," Lobachevsky said with a low bow. *"Dies ist fur mich eine grosse Ehre. Ihrer Werke sint eine Inspiration fur alles."* He meant it.

Neither Bolyai nor Svartalf were to be outdone in courtliness. They stood up on his hind legs, made a reverence with paw on heart, followed with a military salute, took the planchette again and launched into a string of flowery French compliments.

"Who is he, anyhow?" Charles hissed behind me.

"I . . . I don't know his biography," Falkenberg answered likewise. "But I recall now, he was the morning star of the new geometry."

"I'll check the library," Griswold offered. "These courtesies look as if they'll go on for some time."

"Yes," Ginny said in my ear, "can't you hurry things along a bit? We're way overdue at home, you and I. And that phone call could be trouble."

I put it to Lobachevsky, who put it to Bolyai, who wrote ABER NATURLICH and gave us his assurances—at considerable length—that as an Imperial officer, he had learned how to act with the decisiveness that became a soldier when need existed, as it clearly did in the present instance, especially when two such charming young ladies in distress laid claim upon his honor, which honor he would maintain upon any field without flinching, as he trusted he had done in life. . . .

I don't intend to mock a great man. Among us, he was a soul trying to think with the brain and feel with the nerves and glands of a tomcat. It magnified human failings and made well-nigh impossible the expression of his intellect and knightliness. We found these hinted at in the notes on him that Griswold located in encyclopedias and mathematical histories, which we read while Bolyai did his gallant best to communicate with Lobachevsky.

Janos Bolyai was born in Hungary in 1802, when it was hardly more than a province of the Aus-

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trian Empire. His father was also a noted mathematician. Twenty years old, he became an officer of engineers, well-known as a violinist and a swordsman dangerous to meet in a duel. In 1823 he sent to his father a draft of his *Absolute Science of Space*. This was the first rigorous proof that space doesn't logically need to obey axioms like the one about parallel lines.

Unfortunately, it wasn't published till 1833, and just as an appendix to a two-volume work of the old man's. By then Lobachevsky had independently announced similar results. Bolyai remained obscure. He died in 1860.

We found more on the Russian. Look him up. In his life, which ran from 1793 to 1856, he showed more than genius. He showed patience, dedication, compassion, practical helpfulness toward all, in the face of poverty, tyrannical government, neglect, spiteful jealousy, humiliation, epidemic, danger, sorrow, and ultimate blindness. Of course he became a saint!

—No, Steven Pavlovitch, you should not raise me above my worth. I stumbled and sinned more than most, I am sure. But the mercy of God has no bounds. I have been . . . it is impossible to explain. Let us say I have been allowed to progress.

The blackboard filled. Janice wielded an eraser and the chalk squeaked on. To those who knew French—to which the Russian and the Hungarian had switched, as being more elegant than German—it gradually became clear what had happened. But I alone shared Lobachevsky's degree of comprehension. As this grew, I fretted over ways to convey it in American. Time was shrinking on us fast.

—Indeed, Lobachevsky answered. Brusque though contemporary manners have become (*pardonnez-moi, je vous en prie*), haste is needed, for I agree that the hour is late and the peril dire.

Therefore, I called the group to me when at last the questioning was done. Except for Ginny, who couldn't help being spectacular, and Svartalf, who sat at her feet with a human soul in his eyes, they were an unimpressive lot to see, tired, sweaty, haggard, neckties loosened or discarded, hair unkempt, cigarettes in most hands. I was probably less glamorous, perched on a stool facing them. My voice grated and I'd developed a tic in one cheek. The fact that a blessed spirit had joint tenancy of my body didn't much affect plain, scared, fallible me.

"Things have got straightened out," I said. "We made a mistake. God doesn't issue personal orders to His angels and saints, at least not on our behalf. Consciously or not, we assumed we're more important than we are." Lobachev-

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sky corrected me. "No, everybody's important to Him. But there must be freedom, even for evil. And furthermore, there are considerations of—well, I guess you can't say *Realpolitik.* I don't know if it has earthly analogues. Roughly speaking, though, neither God nor the Adversary wants to provoke an early Armageddon. For two thousand years, they've avoided direct incursions into each other's, uh, home territories, Heaven or hell. That policy's not about to be changed.

"Our appeal was heard. Lobachevsky's a full-fledged saint. He couldn't resist coming down, and he wasn't forbidden to. But he's not allowed to aid us in hell. If he goes along, it has to be strictly as an observer, inside a mortal frame. He's sorry, but that's the way the elixir elides. The result was, he entered this continuum, with me as his logical target.

"Bolyai's different. He heard too, especially since the prayer was so loosely phrased it could well have referred to him. Now, he hasn't made sainthood. He says he's been in Purgatory. I suspect most of us'd think of it as a condition where you haven't got what it takes to know God directly, but you can improve yourself. At any rate, while he wasn't in Heaven, he wasn't damned either. And so he's under no prohibition as regards taking an active part in a fight. This looked like a chance to do a good deed. He assessed the content of our appeal, including the parts we didn't speak, and likewise chose me. Lobachevsky, who's more powerful by virtue of sanctity, and wasn't aware of his intent, arrived a second ahead of him."

I stopped to bum a smoke. What I really wanted was a gallon of hard cider. My throat felt like a washboard road in summer. "Evidently these cases are governed by rules," I said. "In part, I guess, it's to protect mortal flesh from undue shock and strain. Only one extra identity per customer. Bolyai hasn't the capability of a saint, to create a temporary real body out of whatever's handy, as you suggested a while back, Dr. Nobu. His way to manifest himself was by using a live corpus. Another rule: such a returned soul can't switch from person to person. It must stay with whom it's at for the duration of the affair.

"Bolyai had to make a snap decision. I was pre-empted. His sense of propriety wouldn't let him, uh, enter a woman. It wouldn't do a lot of good if he hooked up with one of you others, who aren't going. Though our prayer hadn't mentioned it, he'd gathered from the overtones that the expedition did have a third member who was male. He willed himself there. He always was rash. Too late, he discovered he'd landed in Svartalf."

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Barney's brick-house shoulders drooped. "Our project's gone for nothing?"

"No," I said. "With Ginny's witchcraft to help—to boost his feline brainpower—Bolyai thinks he can operate. He's spent a sizable chunk of afterlife studying the geometry of the continua, exploring planes of existence too weird for him to hint at. He loves the idea of a filibuster into hell."

Svartalf's tail swung, his ears stood erect, his whiskers dithered.

"Then it worked!" Ginny shouted. "Whoopee!"

"So far and to this extent, yeah." My determination was unchanged but my enthusiasm less. Lobachevsky's knowledge darkened me:—I sense a crisis. The Adversary can ill afford to let you succeed.

"Well," Karlslund said blankly. "Well, well."

Ginny stopped her war dance when I said: "Maybe you better make that phone call, Dr. Griswold."

The little scientist nodded. "I'll do it from my office. We can plug in an extension here, audio-visual reception."

We had a few minutes' wait. I held Ginny close by my side. Our troops muttered aimlessly or slumped, exhausted. Bolyai was alone in his cheerfulness. He used Svartalf to tour the lab with eager curiosity. By now he knew more math and science than living men will acquire before world's end, but it intrigued him to see how we were going about things.

The phone awoke. We saw what Griswold did. The breath sucked in between my teeth.

"I'm sorry to keep you waiting," the professor said. "It was impossible for me to come earlier. What can I do for you?"

Shining Knife identified himself and showed his sigil. "I'm trying to get in touch with Mr. and Mrs. Steven Matuchek. You know them, don't you?"

"Well, ah, yes . . . haven't seen them lately—" Griswold was a lousy liar.

Shining Knife's countenance hardened. "Please listen, sir. I returned this afternoon from a trip to Washington on their account. The matter they're involved in is that big. I checked with my subordinates. Mrs. Matuchek had disappeared. Her husband had spent time in a spy-proof conference room. He'd not been seen to leave his place of work at quitting time. I sent a man in to ask for him, and he wasn't to be found. Our people had taken pictures of those who went into the plant. A crime lab worker here recognized you among the members of the conference. Are you sure the Matucheks aren't with you?"

"Y-yes. Yes. Why do you want them? Not a criminal charge?"

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"No, unless they misbehave. I've a special order enjoining them from certain actions they may undertake. Whoever abetted them would be equally subject to arrest."

Griswold was game. He overcame his shyness and sputtered: "Frankly, Mr. Shining Knife, I resent your implication. And in any event, the writ must be served to have force. Until such time, they are not bound by it, nor are their associates."

"True. Mind if I come look around your place? They might happen to be there . . . without your knowledge."

"Yes, sir, I do mind. You may not."

"Be reasonable, Dr. Griswold. Among other things, the purpose is to protect them from themselves."

"That attitude is a major part of what I dislike about the present administration. Good day to you, sir."

"Uh, hold." Shining Knife's tone remained soft, but nobody could mistake his expression. "You don't own the building you're in."

"I'm responsible for it. Trismegistus is a private foundation. I can exercise discretionary authority and forbid access to your . . . your myrmidons."

"Not when they arrive with a warrant, Professor."

"Then I suggest you obtain one." Griswold broke the spell.

In the lab, we regarded each other. "How long?" I asked.

Barney shrugged. "Under thirty minutes. The FBI has ways."

"Can we scram out of here?" Ginny inquired of him.

"I wouldn't try it. The area probably went under surveillance before Shining Knife tried to call. I expect he stayed his hand simply because he doesn't know what we're doing and his directive is to proceed with extreme caution."

She straightened. "Okay. Then we go to hell." Her mouth twitched faintly upward. "Go directly to hell. Do not pass Go. Do not collect two hundred dollars."

"Huh?" Barney grunted, as if he'd been kicked in the stomach. "No! You're as crazy as the Feds think you are! No preparation, no proper equipment—"

"We can cobble together a lit with what's around here," Ginny said. "Bolyai can advise us, and Lobachevsky till we leave. We'll win an advantage of surprise. The demonic forces won't have had time to organize against our foray. Once we're out of American jurisdiction, can Shining Knife legally recall is? And he won't keep you from operating our lifeline. That'd be murder. Besides, I suspect he's on our side, not glad of his duty. He may well offer you help." She went to Barney, took one of his hands between both of hers, and looke up into his craggy face. "Don't hinder us, old friends," she

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pleaded. "We've got to have you on our side."

His torment was hurtful to see. But he started ripping out commands. Our team plunged into work.

Griswold entered. "Did you—Oh! You can't leave now!"

"We can't not," I said.

"But you haven't . . . haven't had dinner! You'll be weak and—Well, I know I can't stop you. We keep a fridge with food in the research lab, for when a project runs late. I'll see what it holds."

So that's how we went to storm the fastness of hell: Janice's borrowed shoulder-purse on Ginny, and the pockets of Barney's outsize jacket (sleeves haggled short) on me, abulge with peanut butter sandwiches, tinned kipper for Svartalf-Bolyai, and four cans of beer.

We had some equipment, notably Ginny's kit. This included Valeria's primary birth certificate, which Ashman had brought. The directions he could give Ginny for using it were the main reason he'd been recruited. She put it in her own bag, clipped to her waist, for the time being.

Nobody, including our geometers, knew exactly what would and would not work in hell. Lobachevsky was able to tell us that high-religious symbols had no power there as they do here. Their virtue comes from their orientation to the Highest, and the fundamental thing about hell is that no dweller in it can love. However, we might gain something from paganism. Its element of honor and justice meant nothing where we were bound, but its element of power and propitiation did, and although centuries have passed since anyone served those gods, the mana has not wholly vanished from their emblems.

Ginny habitually wore on her dress the Moon Goddess pin that showed she was a licensed witch. Griswold found a miniature jade plaque, Aztec, carved with a grotesque, grinning feathered serpent, that could be secured to the wereflash beneath my shirt. A bit sheepish under Pastor Karlslund's eye, Barney fished out a silver hammer pendant, copy of a Viking era original. It belonged to his wife, but he'd carried it himself "for a rabbit's foot" since this trouble broke, and now passed the chain around Svartalf's neck.

Projectile weapons weren't apt to be worth lugging. Ginny and I are pretty good shots in the nearly Euclidean space of this plenum. But when the trajectory is through unpredictable distortions that affect the very gravity, forget it, chum. We buckled on swords. She had a slender modern Solingen blade, meant for ritual use but whetted to a sharp point and edge. Mine was heavier and old-

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er, likewise kept for its goetic potency, but that stemmed from its being a cutlass which had once sailed with Decatur.

Air might be a problem. Hell was notoriously foul. Scuba rigs were in stock, being used for underwater investigations. When this gets you involved with nixies or other tricky creatures, you need a wizard or witch along, whose familiar won't be a convenient beast like a seal, unless you have the luck to engage one of the few specialists. Accordingly, there are miniature oxygen bottles and adjustable masks for a wide variety of animals. We could outfit Svartalf, and I tied another pint-size unit to the tank on my back —for Val, in case. That completed the list.

While we busked ourselves with several helpers, Barney and Nobu made the final preparations to transmit us. Or almost final. At the last minute, I asked them to do an additional job as soon as might be.

At the center of the Nexus drawn on the floor, whose shape I won't reveal, they'd put a regular confining pentacle set about with blessed candles. A giant bell jar hung from a block and tackle above, ready to be lowered. This was for the counter-mass from the hell universe, which might be alive, gaseous, or otherwise troublesome. "After we've gone," I said, "lay a few hundred extra pounds of material in there, if the area's not too dangerous to enter."

"What?" Barney said, astonished. "But that'd allow, uh, anything—a pursuer—to make the transition with no difficulty."

"Having arrived here, it can't leave the diagram," I pointed out. "We can and will, in a mighty quick jump. Have spells ready to prevent its return home. Thing is, I don't know what we'll find. Could be an item, oh, of scientific value; and the race needs more data about hell. Probably we won't collect any loot. But let's keep the option."

"Okay. Sound thinking, for a lunatic." Barney wiped his eyes. "Damn, I must be allergic to something here."

Janice didn't weep alone when we bade goodbye. And within me paced the grave thought:

—No more may I aid you, Steven Pavlovitch, Virginia Williamovna, Janos Farkasovitch, and cat who surely has a soul of his own. Now must I become a mere watcher and recorder, for the sake of nothing except my curiosity. I will not burden you with the grief this causes me. You will not be further aware of my presence. May you fare with God's blessing.

I felt him depart from the conscious part of my mind like a dream that fades as you wake and try to remember. Soon he was only something good that had happened to me for a couple of hours.

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Or no, not entirely. I suspect what calm I kept in the time that followed was due to his unsensed companionship. He couldn't help being what he was.

Holding our brooms, Ginny and I walked hand in hand to the Nexus. Svartalf paced ahead. At the midpoint of the figure, we halted for a kiss and a whisper before we slipped the masks on. Our people cast the spell. Again the chamber filled with night. Energies gathered. Thunder and earthquake brawled. I hung onto my fellows lest we get separated. Through the rising racket, I heard my witch read from the parchment whereon stood the name Victrix, urging us toward her through diabolic space-time.

The room, the world, the stars and universes began to rotate about the storm's eye where we stood. Swifter and swifter they turned until they were sheer spinning, the Grotte quern itself. Then was only a roar as of great waters. We were drawn down the maelstrom. The final glimpse of light dwindled with horrible speed, and when we reached infinity, it was snuffed out. Afterward came such twistings and terrors that nothing would have sent us through them except our Valeria Victrix.

I must have blanked out for a minute or a millennium. At least, I became aware with ax-chop abruptness that the passage was over and we had arrived.

Wherever it was.

I clutched Ginny to me. We searched each other with a touch that quivered and found no injuries. Svartalf was hale too. He didn't insist on attention as he normally would. Bolyai made him pad in widening spirals, feeling out our environment.

With caution I slipped off my mask and tried the air. It was bitterly cold, driving in a wind that sought to the bones, but seemed clean—sterile, in fact.

Sterility. That was the whole of this place. The sky was absolute and endless black, though in some fashion we could see stars and ugly cindered planets, visibly moving in chaotic paths; they were pieces of still deeper darkness, not an absence but a negation of light. We stood on a bare plain, hard and gray and flat as concrete, relieved by nothing except scattered boulders whose shapes were never alike and always hideous. The illumination came from the ground, wan, shadowless, colorless. Vision faded at last into utter distance. For that plain had no horizon, no interruptions; it went on. The sole direction, sound, movement came from the drearily whistling wind.

Ginny removed her mask too, letting it hang over the closed bottle like mine. She shuddered and hugged herself. The dress

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whipped around her. "I w-w-was ready to guard against flames," she said. It was as appropriate a remark as most that are made on historic occasions.

"Dante described the seventh circle of the Inferno as frozen," I answered slowly. "There's reason to believe he knew something. Where are we?"

"I can't tell. If the name-spell worked, along with the rest, we're on the same planet—if 'planet' means a lot here—as Val will be, and not too far away." We'd naturally tried for a before-hand arrival.

"This isn't like what the previous expeditions reported."

"No. Nor was our transition. We used different rituals, and slanted across time to boot. Return should be easier."

Svartalf disappeared behind a rock. I didn't approve of that. *"Kommen Sie zuruck!"* I shouted into the wind. *"Retournez-vous!"* I realized that, without making a fuss about it, Lobachevsky had, prior to our departure, impressed on me fluent French and German. By golly, Russian, too!

"Mneowr-r," blew back. I turned. The cat was headed our way from opposite to where he'd been. "What the dickens?" I exclaimed.

"Warped space," Ginny said. "Look." While he trotted steadily, Svartalf's path wove as if he were drunk. "A line where he is must answer to a curve elsewhere. And he's within a few yards. What about miles off?"

I squinted around. "Everything appears straight."

"It would, while you're stationary. Br-r-r! We must get warmer."

She drew the telescoping wand from her purse. The star at its tip didn't coruscate here; it was an ember. But it made a lighted match held under our signatures and Svartalf's pawprint generate welcome heat in our bodies. A bit too much, to be frank; we started sweating. I decided the hell universe was at such high entropy—so deep into thermodynamic decay—that a little potential went very far.

Svartalf arrived. Staring uneasily over the plain, I muttered, "We haven't met enough troubles. What're we being set up for?"

"We've two items in our favor," Ginny said. "First, a really effective transfer spell. Its influence is still perceptible here, warding us, tending to smooth our fluctuations and similarize nature to home. Second, the demons must have known well in advance where and when the earlier expeditions would come through. They'd ample time to fix up some nasty tricks. We, though, we've stolen a march." She brushed an elflock from her brow and added starkly: "I expect we'll get our fill of problems as we travel."

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"We have to?"

"Yes. Why should the kidnaper make re-entry at this desert spot? We can't have landed at the exact point we want. Be quiet while I get a bearing."

Held over the Victrix parchment, the proper words sung, her dowser pointed out an unequivocal direction. The scryer globe remained cloudy, giving us no hint of distance or look at what lay ahead. Space-time in between was too alien.

We ate, drank, rested what minutes we dared, and took off. Ginny had the lead with Svartalf on her saddlebow, I flew on her right in echelon. The sticks were cranky and sluggish, the screenfields kaput, leaving us exposed to the wind from starboard. But we did loft and level off before the going got tough.

At first it was visual distortion. What I saw—my grasp on the controls, Svartalf, Ginny's splendid figure, the stones underneath—rippled, wavered, widened, narrowed, flowed from one obscene caricature of itself to a worse one. Gobs of flesh seemed to slough off, hang in drops, stretch thin, break free and disappear. Sound altered too; the skirl turned into a cacophony of yells, buzzes, drones, fleetingly like words almost understandable and threatening, pulses too deep to hear except with the body's automatic terror reaction. "Don't pay heed!" I called. "Optical effects, Doppler—" but no message could get through that gibbering.

Suddenly my love receded. She whirled from me like a blown leaf. I tried to follow, straight into the blast that lashed tears from my eyes. The more rudder I gave the broom, the faster our courses split apart. "Bolyai, help!" I cried into the aloneness. It swallowed me.

I slid down a long wild curve. The stick would not pull out of it. Well, flashed through my fear, I'm not in a crash dive, it'll flatten a short ways above—

And the line of rocks athwart my path were not rocks, they were a mountain range toward which I catapulted. The gale laughed in my skull and shivered the broom beneath me. I hauled on controls, I bellowed the spells, but any change I could make would dash me on the ground before I hit those cliffs.

Somehow I'd traveled thousands of miles—had to be that much, or I'd have seen these peaks on the limitless plain, wouldn't I have?—and Ginny was lost, Val was lost, I could brace myself for death, but not for the end of hope.

"Yeee-ow-w-w!" cut through the clamor. I twisted in my seat. And there came Ginny. Her hair blew in fire. The star on her wand burned anew like Sirius. Bolyai was using Svartalf's paws to steer; yellow eyes and white fangs flared in the panther countenance.

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They pulled alongside. Ginny leaned over till our fingers met. Her sensations ran down the circuit to me. I saw with her what the cat was doing. I imitated. It would have wrecked us at home. But here we slewed sideways and started gaining altitude.

How to explain? Suppose you were a Flatlander, a mythical creature (if any creature is mythical) of two space dimensions, no more. You live in a surface. That's right, *in*. If this is a plane, its geometry obeys the Euclidean rules we learn in high school: parallel lines don't meet, the shortest distance between two points is a straight line, the angles of a triangle total 180 degrees, et cetera. But now imagine that some three-dimensional giant plucks you out and drops you into a surface of different shape. It might be a sphere, for example. You'll find space fantastically changed. In a sphere, you must think of lines in terms of meridians and parallels, which means they have finite length; in general, distance between points is minimized by following a great circle; triangles have a variable number of degrees, but always more than 180—You might well go mad. Now imagine cones, hyperboloids, rotated trigonometric and logarithmic curves, Mobius bands, whatever you can.

And now imagine a planet which is all water, churned by storms and not constrained by the ordinary laws of physics. At any point its surface can have any form, which won't even stay constant in time. Expand the two dimensions into three; make it four for the temporal axis, unless this requires more than one, as many philosophers believe; add the hyperspace in which paranatural forces act; put it under the rule of chaos and hatred: and you've got some analogy to the hell universe.

We'd hit a saddle point back yonder, Ginny passing to one side of it, I to the other. Our courses diverged because the curvatures of space did. My attempt to intercept her was worse than useless; in the region where I found myself, a line aimed her way quickly bent in a different direction. I blundered from geometry to geometry, through a tuck in space that bypassed enormous reaches, toward my doom.

No mortal could have avoided it. But Bolyai was mortal no longer. To his genius had been added the knowledge and skill of more than a century's liberation from the dear but confining flesh. Svartalf's body had changed from a trap to a tool, once his rapport with Ginny enabled the mathematician to draw on her resources also. He could make lightning-quick observations of a domain, mentally write and solve the equations that described it, calculate what its properties would be,

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get an excellent notion of what the contour would shade into next —in fractional seconds. He wove through the dimensional storms of hell like a quarterback bound for a touchdown.

He gloried. For lack of other voice, he sang the songs of a black tomcat out after fornication and battle. We clawed over the mountains and streaked toward our goal.

It was no milk run. We must keep aware and reacting each instant. Often we made an error that well-nigh brought us to grief. I'd lose contact with Ginny and wander off again; or a lurch would nearly make us collide; or the intense gravitational field where space was sharply warped hurled out sticks groundward and tried to yank out guts and eyeballs; or a quick drop in weight sent us spinning; or we shot through folds in space instead of going around and were immediately elsewhere—I don't recall every incident. I was too busy to notice a lot of them.

We traveled, though, and faster than we'd hoped, once Bolyai discovered what tricks we could play when the time dimension was buckled. The deafening racket and disgusting illusions plagued us less and less as we got the hang of passing smoothly from metric to metric. Moreover, the world around us grew steadier. Somebody or something wanted to lair in a region where disturbances tended to cancel out—surely our goal.

I became able to study the landscape. It changed beneath us, though its desolation was constant. The plain gave way to crags, to miles of jumbled bones, to a pit that seemed without bottom, to a lava sea across which sleeted flames and from which rose fumes that made us don our masks, to a swamp of dead trees where thin black mantis-like figures danced around a steeple-high bonfire where other figures writhed shrieking . . . and on to worse things. We plowed through. Each time Ginny lifted her globe, a pale but waxing glow from inside it showed we were nearer our destination.

We couldn't hope to be unobserved, that whole long route. And doubtless word would flash ahead. We pushed the hardest we could.

We crossed a forest of gallows and a river that flowed with a noise like sobbing and whose spray, cast up by a gust, was warm and salt. We suffered the heat and poisonous vapors from a system of roads where motor vehicles of some kind crawled nose to tail across miles. We traversed hills gouged with trenches and the craters of explosions, rusted cannon the last sign of life except for one flag, raised as in victory, whose colors had faded to gray.

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The hills climbed till we met another range so high we needed our masks; flitting through its canyons, we dodged stones that fell upward.

But past those mountains the land swooped down anew. Another plain of boulders reached beyond sight. Far off upon it, toylike at their remove, we spied gaunt black towers. The globe flared brilliant, the wand leaped to point in Ginny's fingers. "By Hecate," she cried, "that's it!"

I drew alongside. The air was still cold and blowing, a wail in our ears, a streaming past our ribs, a smell akin to burning sulfur and wet iron. At hover, the broomsticks rocked and pitched. Her foot against mine was a very precious contact.

We peered into the globe she held. Svartalf-Bolyai craned around her arm to see. This close, the intervening space not too different from home geometry, the scrying functioned well. Ginny zoomed in on the castle. It was sable in hue, monstrous in size and shape. Or had it a shape? It sprawled, it soared, it burrowed with no unity except ugliness. Here a thin spire lifted crookedly from a cubical donjon, there a dome swelled pustular, yonder a stone beard overhung a misproportioned gate . . . square miles of planless deformity, aswarm with the maggoty traffic of devils.

We tried to look through the walls, but didn't penetrate far. Behind and beneath the cavernous chambers and twisted labyrinths that we discerned, too much evil force roiled. It was just as well, considering what we did vaguely make out. At the limit, a thought came from just beyond, for an instant—no, not a thought, a wave of such agony that Ginny cried aloud and I bit blood out of my lip. We blanked the globe and embraced till we could stop shuddering.

"Can't afford this," she said, drawing free. "Time's gotten in short supply."

She reactivated the scryer, with a foreseer spell. Those rarely work in our universe, but Lobachevsky had theorized that the fluid dimensions of the Low Continuum might give us a better chance. The view in the globe panned, steadied on one spot, and moved close. Slab-like buildings and contorted towers enclosed a certain courtyard in an irregular septagon. At the middle of this was a small, lumpy stone house, windowless and with a single doorway. A steeple climbed from it, suggestive of a malformed ebon toadstool, that overtopped the surrounding structures and overshadowed the pavement.

We couldn't view the inside of this either, for the same reason as before. It seemed to be untenanted, though. I had the creepy feel-

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ing that it corresponded in some perverted way to a chapel.

"Unambiguous and sharp," Ginny said. "That means she'll arrive there, and soon. We'll have to lay our plans fast."

"And move fast, too." I said. "Give me an overall scan, will you, with spot closeups?"

She nodded. The scene changed to one from on high. I noted afresh how it pullulated in the crowds. Were they always this frantic? Not quite, surely. We focused in a single band of demons. No two looked alike; vanity runs high in hell. A body covered with spines, a tentacled dinosaur, a fat slattern whose nipples were tiny grinning heads, a flying swine, a changeable blob, a nude man with a snake for a phallus, a face in a belly, a dwarf on ten-foot, pencil-thin legs, and less describable sights—What held my attention was that most of them were armed. They didn't go for projectiles either, evidently. However, those medievalish weapons would be bad to encounter.

Sweeping around, our vision caught similar groups. The confusion was unbelievable. There was no discipline, no consideration, everybody dashed about like a decapitated chicken yelling at everybody else, they jostled and snarled and broke into fights. But more arms were being fetched each minute from inside, more grotesque flyers lumbered into the air and circled.

"They've been alerted, all right," I said.

"I don't suppose they know what to expect," Ginny said in a low, tight voice. "They aren't especially guarding the site we're after. Didn't the Adversary pass word about us?"

"He seems to be debarred from taking a personal hand in this matter, same as Lobachevsky and for analogous reasons, I guess. At most, he may've tipped his underlings to watch out for trouble from us. But they can't know we've acquired the capability to do what we did. Especially since we've made an end run in time."

"And the diabolic forces are stupid," Ginny said. "Evil is never intelligent or creative. They receive word a raid is possible, and look at that mess!"

"Don't underrate them. An idiot can kill you just as dead." I pondered. "Here's what we'll do, if you agree. Rush straight in. We can't prevent them seeing us, so we have to be quick. Good thing our sticks function close to normal in this neighborhood. We won't make directly for the yard or they might block us off. See that palace, I assume it is, over to the left—the one with the columns in front that look like bowels? Must belong to the big cheese, which makes it a logical spot for enemies to drop a bomb on. At the last

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moment we'll swerve toward our real mark. You get inside, establish our paranatural defenses, and ready the return spell. I'll keep the door. The instant Val appears, you skewer the kidnaper and grab her. Got it?"

"Yes. Oh, Steve." The tears ran silently from her eyes. "I love you."

We kissed a final time, there in the sky of hell. Then we attacked.

The wind of our passage shouted around us. The dreary landscape reeled away beneath. I heard Svartalf's challenge and answered with my own whoop. Fear blew out of me. Gangway, you legions of darkness, we're coming to fetch our girl!

They began to see us. Croaks and yammers reached our ears, answered by shrieks from below. The flying devils milled in the air. Others joined them till several hundred wings beat in a swarm across the sooty stars. They couldn't make up the minds they scarcely had what to do about us. Nearer we came and nearer. The castle rose in our vision like the ranges we had crossed.

Ginny must spend her entire force warding off sorceries. Lightning bolts spattered blue on the shield-field, yards off, followed by thunder and ozone. Lethal clouds boiled from smokestacks, englobed our volume of air and dissipated. I had no doubt that, unperceived by us, curses, hoodoos, illusions, temptations, and screaming meemies rained upward and rebounded.

The effort was draining her. I glimpsed the white, strained countenance, hair plastered to brow and cheeks by sweat, wand darting while the free hand gestured and the lips talked spells. Svartalf snarled in front of her; Bolyai piloted the broom. None of them could keep it up for many minutes.

But that conjure wave made it impossible for anything to get at us physically. The creature in charge must have realized this at the end, for the assault stopped. An eagle the size of a horse, wearing a crocodile's head, swooped upon us.

My cutlass was drawn. I rose in the stirrups. "Not one cent for tribute!" I bayed, and struck. The old power awoke in the blade. It smote home with a force I felt through my bones. Blood spurted from a sheared-off wing. The devil bawled and dropped.

A batsnake threw a loop around my right arm. I grabbed its neck with my left hand before it could sink fangs in me. Human, I remain wolf; I bit it in two. Barely in time, I cut at a twin-tailed manta coming for Ginny. It fell aft, spilling guts. An aerial hound sought to intercept us. I held my weapon straight and got him with the point.

Horns hooted their discord.

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The flapping, cawing, stinking flock retreated in its regular disorder. Our stratagem had worked. Their entire outfit, infantry, air corps and all, was being summoned to defend the palace.

We pursued to within a hundred yards. The manor was no longer visible for wings and feculent bodies. I lifted my blade as signal. We swung right and whizzed downward. Babel erupted behind us.

We landed jarringly hard. Surrounded by walls, brooded over by the cap of its tower, the building huddled in twilight. I bounced from my seat to the door and tried its ill-feeling handle. It creaked open and we ran in.

A single room, dank jagged stone, lay before us. It wasn't large in area, but opened above on the measureless dark of the tower. The room was bare except for an altar where a Glory Hand cast dull blue light. The arrangement of objects and the pattern on the floor were similar to those we'd employed for transit.

The heart cracked in me. "Val!" I sobbed. Ginny wrestled me to a halt. She couldn't have done so without Svartalf getting between my ankles.

"Hold it," she gasped. "Don't move. That's the changeling."

I drew a lungful of air and regained my sanity. Of course, of course. But it was more than I could endure to look at that chubby shape before the altar, gold curls and empty, empty eyes. Strange, also, to see next to the half-alive thing the mass already exchanged from our house: dust flug, sandbox contents, coffee grounds, soggy paper towels, a Campbell's Soup can—

The devil garrison was boiling over the walls and through the portals into this courtyard. I slammed the door and dropped the bolt. It was good and heavy: might buy us a few minutes.

How many did we need? I tried to reconstruct events. The kidnaper was doubtless moronic even by hell's standards. He'd heard Marmiadon's curse. A lot of them must have, but didn't see anything they could do to fulfill it. This one noticed our vulnerability. "Duh," he said, and flashed off to collect some kudos, without consulting any of the few demons that are able to think. Such a higher-up could have told him to lay off. His action would give a clue to the link between hell and the Johannine Church, and thus imperil the whole scheme for the sabotage of religion and society that the Adversary had been working on since he deluded the first of the neo-Gnostics.

Being the dimbulb he was, this creature could not solve the momentum problem of transferring a body other than his own between universes, unless the exchange-mass was nearly identical in con-

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figuration. His plan would have been to appear in our home, scan Valeria as she slept, return here, chant a hunk of meat into her semblance and go back after her. The first part would only have taken seconds, though it got the wind up Svartalf. The snatch ought to have gone quickly too, but the cat was waiting and attacked.

At this moment, if simultaneity had meaning between universes, the fight ramped and Svartalf's blood was riven from him. My throat tightened. I stooped over him. "We'd have arrived too late here except for you," I whispered. "They don't make thanks for that sort of help." Infinitely gently, I stroked the sleek head. He twitched his ears, annoyed. In these surroundings, he'd no patience with fine sentiments. Besides, currently they were Janos Bolyai's ears too.

Ginny was chalking a diagram around the room for a passive defense against demonurgy. It took care, because she mustn't disturb altar, emblem, or objects elsewhere. They were the fiend's return ticket. Given them, he need simply cast the appropriate spell in our cosmos, just as we'd use the things and symbols in Griswold's lab for a lifeline. If the kidnaper found himself unable to make it back with his victim, God alone knew what would happen. They'd certainly both leave our home and a changeling would replace them. But we'd have no inkling of how this came about or where they'd gone. It might provide the exact chance the enemy needed to get his project back on the rails.

Outside, noise swelled, stamp, howl, whistle, grunt, gibber, bubble, hiss, yelp, whine, squawk, moan, bellow. The door reverberated under fists, feet, hoofs. I might well have to transform. I dropped the scuba gear and my outer garments, except for wrapping Barney's jacket around my left forearm.

A mouth, six feet wide and full of clashing teeth, floated through a wall. I yelled, Svartalf spat. Ginny grabbed her wand and cried dismissal. The thing vanished. But thereafter she was continually interrupted to fight off such attacks.

She had to erect fortifications against them before she could begin the spell that would send us home. The latter ritual must not be broken off till at least a weak field had been established between this point and the lab on earth, or it became worthless. Having made initial contact, Ginny could feel out at leisure what balance of forces was required and bring them up to the strength necessary for carrying us. Now she wasn't getting leisure. In consequence, her defensive construction went jaggedly and slowly.

The hullabaloo outside dwin-

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dled somewhat. I heard orders barked. Thuds and yammers suggested they were enforced with clubs. A galloping grew. The door rocked under a battering ram.

I stood aside. At the third blow, the door splintered and its hinges tore loose. The lead devil on the log stumbled through. He was rather like a man-sized cockroach. I cut him apart with a brisk sweep. The halves threshed and clawed for a while after they fell. They entangled the stag-horned being that came next, enabling me to take him with ease.

The others hauled back the log, which blocked the narrow entrance. But my kills remained as a partial barrier in front of me. The murk outside turned most of the garrison into shadows, though their noise stayed deafening and their odors revolting.

One trod forward in the shape of a gorilla on man's legs. He wielded an ax in proportion to his size. It hewed. Poised in karate stance, I shifted to let it go by. Chips sleeted where it hit stone. My cutlass sang. Fingers came off him. He dropped the ax. Bawling his pain, he cuffed at me. I did the fastest squat on record. While that skull-cracker of a hand boomed above, I got an Achilles tendon. He fell. I didn't try for a death, because he barred access while he dragged himself away. My pulse seethed in my ears.

A thing with sword and shield was next. We traded blows for a couple of minutes. He was good. I parried, except for slashes that the jacket absorbed; but I could not get past that shield. Metal clashed above the bedlam, sparks showered in twilight. My breath started coming hard. He pressed close. A notion flashed in me. As he cut over the top of his shield, I dropped down again. My weapon turned his, barely. My left hand grabbed the ax, stuck the helve between his legs, and shoved. He toppled, exposing his neck. I smote.

Rising, I threw the ax at the monster behind, who reeled back. A spear-wielder poked at me. I got the shaft and chopped it over.

No further candidates advanced right away. The mass churned around, arguing with itself. Through the hammering of my heart, I realized I couldn't hold out much longer. As human, that is. Here was a chance to assume the less vulnerable lyco state. I tossed my blade aside and turned the flash on myself.

At once I discovered that transformation was slow and agonizing amidst these influences. For a space I writhed helpless between shapes. A rooster-headed fiend cackled his glee and rushed forward, snickersnee on high. Werewolf or no, I couldn't survive bisection. Svartalf bolted past me, walked up the enemy's abdomen, and clawed his eyes out.

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Wolf, I resumed my post. The cat went back inside. We were just in time. The garrison finally got the idea of throwing stuff. Space grew thick with rocks, weapons and assorted impedimenta. Most missed. Hell is no place to develop your throwing arm. Those that hit knocked me about, briefly in pain, but couldn't do any real damage.

The barrage ended when, in sheer hysteria, they tried to storm us. That was turmoil, slice, hack, rip, tumbling about in their vile welter. They might have overrun me by numbers had Ginny not finished her paranatural defenses and come to my aid. Her weapon disposed of the demons that crawled over the pile of struggling bodies.

When at last they withdrew, their dead and wounded were heaped high. I sat down amidst the ichor, the fragments, the lamentations, unreeled my tongue and gulped air. Ginny rumpled my fur, half laughing, half crying. Some claws had reached her; blood trickled from scratches, and her dress was tattered into battle banners. Svartalf's aid had prevented her opponents from inflicting serious wounds, though. I glanced within and saw him playing mousy with a devil's tail.

More important was the soft luminosity from the lines woven across the floor. We were as accessible as ever to physical force, but goetics couldn't touch us now. To break down her impalpable walls would take longer than we'd possibly stay.

"Steve, Steve, Steve—" Ginny straightened. "I'd better prepare for our return."

"*Halt!*" called a voice from the dusk. It was hoarse, with an eerie hypnotic rhythm, not calming but, rather, invoking wrath and blind energy. "*Waffenstillstand. Parlamentieren Sie mit uns.*"

The devils, even the strewn wounded, fell quiet. Their noise sibilated away until the silence was nearly total, and those who could, withdrew until they merged in vision with the blackness behind them. I knew their master had spoken, the lord of this castle . . . who stood high in the Adversary's councils, if he commanded obedience from these mad creatures.

Boots clacked over flagstones. The demon chief came before us. The shape he had adopted startled me. Like his voice, it was human, but it was completely unmemorable. He was of medium height or less, narrow-shouldered, face homely and a bit puffy, ornamented with nothing but a small toothbrush mustache and a lock of dark hair slanting across the brow. He wore some kind of plain brown military uniform. But why did he add a red armband with the ancient and honorable sign of the fylfot?

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Svartalf quit his game and bristled. Through diabolic stench, I caught the smell of Ginny's fear. When you looked into the eyes in that face, it stopped being ordinary. She braced herself, made a point of staring down along the couple of inches she overtopped him, and said in her haughtiest tone, *"Was willst du?"*

It was the *du* of insult. Her personal German was limited, but while Bolyai was in Svartalf, he could tap his fluency by rapport with her familiar. (Why did the devil prince insist on German? There's a mystery here that I've never solved.) I retained sufficient human-type capabilities to follow along.

"I ask you the same," the enemy replied. Though he kept to the formal pronoun, his manner was peremptory. "You have encroached on our fatherland. You have flouted our laws. You have killed and maimed our gallant warriors when they sought to defend themselves. You desecrate our House of Sendings with your odious presence. What is your excuse?"

"We have come to gain back what is ours."

"Well? Say on."

I growled a warning, which Ginny didn't need. "If I told you, you might find ways to thwart us." she said. "Be assured, however, we don't intend to stay. We'll soon have completed our mission." Sweat glistened forth on her brow. "I . . . I suggest it will be to the advantage of both parties if you let us alone meanwhile."

He stamped a boot. "I demand to know! It is my right!"

"Diseases have no rights," Ginny said. "Think. You cannot pierce our spell-wall nor break through by violence in the time that is left. You can only lose troops. I do not believe your ultimate master would be pleased at such squandering of resources."

He waved his arms. His tone loudened. "I do not admit defeat. For me, defeat has no existence. If I suffer a reverse, it is because I have been stabbed in the back by traitors." He was heading off into half a trance. His words became a harsh, compelling chant. "We shall break the iron ring. We shall crush the vermin that infest the universes. We shall go on to victory. No surrender! No compromise! Destiny calls us onward!"

The mob of monsters picked up a cue and cried hail to him. Ginny said, "If you want to make an offer, make it. Otherwise go away. I've work to do."

His features writhed, but he got back the self-control to say, "I prefer not to demolish the building. Much effort and wizardry is in these stones. Yield yourselves and I promise fair treatment."

"What are your promises worth?"

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"We might discuss the worldly gains rewarding those who serve the cause of the rightful—"

Svartalf mewed. Ginny spun about. I threw a look behind, as a new odor came to me. The kidnaper had materialized. Valeria lay in his grasp.

She was just coming awake, lashes aflutter, head turning, one fist to her lips. "Daddy?" the sleepy little voice murmured. "Mothuh?"

The thing that held her was actually of less weight. It wore an armor-plated spiky-backed body on two clawed feet, a pair of gibbon-like arms ending in similarly murderous talons, and a tiny head with blob features. Blood dripped off it here and there. The loose lips bubbled with an imbecilic grin, till it saw what was waiting.

It yowled in English, "Boss, help!" as it let Val go and tried to scuttle aside. Svartalf blocked the way. It raked at him. He dodged. Ginny got there. She stamped down. I heard a crunch. The demon ululated.

I'd stuck at my post. The lord of the castle tried to get past me. I removed a chunk of his calf. It tasted human, too, sort of. He retreated, into the shadow chaos of his appalled followers. Through their din I followed his screams: "I shall have revenge for this! I shall unleash a secret weapon! Let the House be destroyed! Our pride demands satisfaction! *My patience is exhausted!*"

I braced myself for a fresh combat. For a minute, I almost got one. But the baron managed to control his horde; the haranguing voice overrode theirs. As Ginny said, he couldn't afford more futile casualties.

I thought, as well as a wolf can: Good thing he doesn't know they might not have been futile this time.

For Ginny could not have aided me. After the briefest possible enfolding of her daughter, she'd given the kid to Svartalf. The familiar—and no doubt the mathematician—busied himself with dances, pounces, pattycake and wurra-wurra, to keep her out of her mother's hair. I heard the delighted laughter, like silver bells and springtime rain. But I heard, likewise, Ginny's incantation.

She must have about five unbroken minutes to establish initial contact with home, before she could stop and rest. Then she'd need an additional period to determine the precise configuration of vectors and gather the required paranatural energies. And then we'd go!

It clamored in the dark. An occasional missile flew at me, for no reason except hatred. I stood in the door and wondered if we had time.

A rumbling went through the air. The ground shuddered underfoot. The devils keened among shadows. I heard them retreating.

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Fear gripped me by the gullet. I have never done anything harder than to keep that guardian post.

The castle groaned at its foundations. Dislodged blocks slid from the battlements and crashed. Flamelight flickered out of cracks opened in gates and shutters. Smoke tried to strangle me. It passed, and was followed by the smell of ancient mould.

"—*in nomine Potestatis, fiat janua*—" the witch's hurried verses ran at my back.

The giant upheaved himself.

Higher he stood than the highest spire of this stronghold beside which he had lain buried. The blackness of him blotted out the stars of hell. His tottering feet knocked a curtain wall down in a grinding roar; dust whirled up, earthquake ran. Nearly as loud was the rain of dirt, mud, gravel, from the wrinkled skin. Fungi grew there, pallidly phosphorescent, and worms dripped from his eye sockets. The corruption of him seized the breath. The heat of his decay smoldered and radiated. He was dead, but the power of the demon was in him.

"—*saeculi aeternitatis.*" Ginny had kept going till she could pause without danger to the spell. She was that kind of girl. But now she came to kneel by me. "Oh, darling," she wept, "we almost won through!"

I fumbled at my flash. The giant wové his head from side to side as if he still had vision. The faceless visage came to a stop, pointed our way. I shoved the switch and underwent the Skin-turning back to human. The giant raised a foot. He who operated him was trying to minimize damage to the castle. Slowly, carefully, he set it down inside the fortifications.

I held my girl to me. My other girl laughed and romped with the cat. Why trouble them? "We've no chance?"

"I . . . no time . . . first-stage field ready, b-b-but flesh can't cross before I . . . complete—I love you, I love you."

I reached for Decatur's sword where it gleamed in the Handlight. We've come to the end of creation, I thought, and we'll die here. Let's go out fighting. Maybe our souls can escape.

Souls!

I grabbed Ginny by the shoulder and thrust her back to look at. "We can send for help," burst from me. "Not mortals, and angels're forbidden, but, but you do have contact established and . . . the energy state of this universe—it doesn't take a lot to—There's bound to be many c-creatures, not of Heaven but still no friends of hell—"

Her eyes kindled. She sprang erect, seized wand and sword, swung them aloft and shouted.

The giant stepped into our courtyard. The crippled devils

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gibbered their terror, those he did not crush underfoot. His fingers closed around the tower.

I couldn't tell what language Ginny's formula was in, but she ended her cry in English: "Ye who knew man and were enemies of Chaos, by the mana of the signs we bear I call on you and tell you that the way from earth stands open!"

The chapel rocked. Stones fell, inside and outside. The tower came off. It broke apart in the giant's clutch, a torrent that buried the last of hell's wounded. We looked into lightless constellations. The giant groped to scoop us out.

Our rescuers arrived.

I don't know who or what they were. Perhaps their looks were illusion. I'll admit that the quarters of the compass were from whence they came, because these are nonsense in hell. Perhaps what came in answer to Ginny's call was simply a group of beings, from our universe or yet another, who were glad of a chance to raid the realm of the Adversary that is theirs too. She had built a bridge that was, as yet, too frail to bear mortal bodies. However, as I'd guessed, the entropy of the Low Continuum made paranatural forces able to accomplish what was impossible elsewhere.

Explain it as you like. This is what I saw:

From the West, the figure of a woman, queenly in blue-bordered white robe. Her eyes were gray, her features of icicle beauty. The dark tresses bore a crested helmet. Her right hand carried a spear whose head shimmered midnight azure with glitters as of earthly stars; and upon that shoulder sat an owl. On her left arm was a long shield, which for boss had the agonized face of another woman whose locks were serpents.

From the South, the greatest serpent of them all. His orbs were like suns, his teeth like white knives. Plumes of rainbow color grew on his head, nodding in the wind he brought with him, shining with droplets of the rain that walked beneath. More feathers made a glory down his back. His scales were coral, the scutes upon his belly shone golden. The coils of him lashed about as does the lightning.

From the North, a man in a chariot drawn by two goats. He stood burly, red-bearded, clad in helmet and ring-mail, iron gloves and an iron belt. Driving with his left hand, he gripped a short-handled hammer in his right. The cloak blew behind him on mighty gales. The rumble of his car wheels went down and down the sky. He laughed, swung the hammer and threw it. Where it struck, fire blasted and the air roared; it returned to him.

Each of these loomed so tall that the firmament would hardly contain them. Hell trembled at

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their passage. The devils fled in a cloud. When his master left, the giant's animation ceased. He fell with an impact that knocked me off my feet. It demolished a large part of the castle. The newcomers didn't stop to level the rest right away, but took off after the fiends. I don't imagine many escaped.

We didn't watch. Ginny completed the transfer spell and seized Valeria in her arms. I tucked Decatur's sword under one of mine —damn if it'd be left here!— and offered Svartalf the crook of that elbow. From the floor I plucked up the kidnaper demon. It had a broken leg. "Boss, don't hurt me, I'll be good, I'll talk, I'll tell ya ever't'ing ya want," he kept whining. Evil has no honor.

Ginny spoke the final word, made the final pass. We crossed.

It was nothing like the outbound trip. We were headed back where we belonged. The cosmic forces didn't buck us; they worked for us. We knew a moment of whirling, and were there.

Barney's gang waited in the lab. They sprang back with a cry, a sob, a prayer of thanks as we whoofed into sight under the bell jar. It turned out that we'd only been absent a couple of hours from this continuum. And maybe no more in hell? We couldn't be sure, our watches having stopped during the first transition. It felt like centuries. I looked upon Valeria and Ginny, and it felt like no time.

The child was blinking those big heaven-colored eyes around in astonishment. It struck me that the terrible things she'd witnessed might have scarred her for life. Shakily, I bent over her. "Are you okay, sweetheart?"

"Ooh, Daddy," she beamed. " 'At was fun. Do it again?"

Ginny set her down. I bent and swept the little one to me. She was restless. "I'm hungry," she complained.

I'd let the prisoner go. After the bell jar was raised, it tried to creep off. But it couldn't leave the pentacle, and Barney had laid the spell I asked for that prevented it from returning to the Low Continuum without our leave. Shining Knife had gotten his warrant. He waited too, with a number of his men. He strode in among us and lifted the demon by its sound leg. The grotesque figure sprattled in his grasp. "Boss, gimme a break, boss," it begged. "I'll squeal."

The changeling, of course, vanished from the juvenile home when Valeria was restored. Poor flesh, I hope it was allowed to die.

I didn't think of that immediately. Being sure our daughter was well, Ginny and I sought each other. What broke our kiss was a joy greater yet, a happiness whose echo will never stop chiming in us: *"Free! O Father!"* And when we could look at this world again, Svartalf was only Svartalf.

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The gracious presence within me said: —Yes, for this deed Janos Bolyai is made a saint and admitted to the nearness of God. How glad I am. And how glad you won your cause, dear friends, and Valeria Stevenovna is safe, and the enemies of the Highest confounded! (Shyly) I have a selfish reason for additional pleasure, be it confessed. What I observed on this journey has given me some fascinating new ideas. A rigorous theoretical treatment—

I sensed the wish that Lobachevsky could not bring himself to think overtly, and uttered it for him: You'd like to stick around a while?

—Frankly, yes. A few days, after which I must indeed return. It would be marvelous to explore these discoveries, not as a soul, but once again as a mortal. It is like a game, Steven Pavlovitch. One would like to see how far it is possible to go within the constraints of humanity. (In haste) But I beg you, esteemed friend, do not consider this a request. Your lady and yourself have endured perils, hardships and fear of losing more than your lives. You wish to celebrate your triumph. Believe me, I would never be so indelicate as to—

I looked fondly, a trifle wistfully at Ginny and thought back: I know what you mean, Nick, and I've every intention of celebrating with her, at frequent intervals, till we reach an implausibly ripe old age. But you've forgotten that the flesh has physical as well as mental limits. She needs a good rest. I need a better one. You might as well stay for a bit. Besides, I want to see that what you write goes to the proper journals. It'll be quite a boost for our side.

And this is how it happened that, although Bolyai led our expedition, Lobachevsky published first.

There's no such thing as living happily ever after.

You'd like to be famous? You can have it, buster: every last reporter, crystal interview, daily ton of mail, pitch for Worthy Causes, autograph hound, belligerent drunk, crank phone call, uninvited visitor, sycophant, and you name it. Luckily, we followed sound advice and played loose. I ended up with a better position than I probably rate, Ginny with the free-lance studio she'd always wanted, and we're no longer especially newsworthy. Meanwhile, Valeria's gotten to the boy-friend stage, and none of them seem worthy of her. They tell me every father of a girl goes through that. The other children keep me too busy to fret much.

It *was* quite a story. The demon's public confession brought the Johannine Church down in spectacular style. We've got its diehards around yet, but they're

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harmless. Then there's the reformed sect of it—where my old sparring partner Marmiadon is prominent—that tries to promulgate the Gospel of Love as merely another creed. Since the Gnosticism and the secret diabolism are out, I don't expect that St. Peter or gentle St. John greatly minds.

Before he left me for Heaven, Lobachevsky proved some theorems I don't understand. I'm told they've doubled the effectiveness of the spells that Barney's people worked out in those long-ago terrible hours. Our buddy Shining Knife had a lot to do with arranging sensible dissemination of the new knowledge. It has to be classified; you can't trust any old nut with the capabilities conferred. However, the United States government is not the only one that knows how to invade hell if provoked. The armies of Earth couldn't hope to conquer it, but they could make big trouble, and Heaven would probably intervene. As a result, we've no cause to fear other direct assaults from the Adversary's dominion. From men, yes—because he still tempts, corrupts, seduces, tricks, and betrays. But I think if we keep our honor clean and our powder dry, we won't suffer more than we can bear.

Looking back, I often can't believe it happened: that this was done by a red-haired witch, a bobtailed werewolf and a snooty black tomcat. Then I remember it's the Adversary who is humorless. I'm sure God likes to laugh.

27th World Science Fiction Convention (St. LouisCon)

. . . will be held August 29-September 2 at the Chase-Park Plaza Hotel, St. Louis, Mo. Guest of honor is Jack Gaughan; fan guest of honor is Ted White. Features include art show, films, panels, discussions, masquerade ball, rock band, auctions and the Hugo Award Banquet.

Memberships: $3.00 supporting, $4.00 attending. Join now and receive all Progress Reports as they are published. To join or for further information write: St. LouisCon, P. O. Box 3008, St. Louis, Mo. 63130. Please make checks payable to St. LouisCon.

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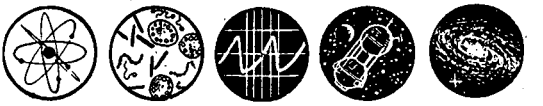

THE FATEFUL LIGHTNING

by Isaac Asimov

IN THE LAST FIVE YEARS OR SO, I have turned to writing history. I don't mean the history of science (I've been doing that for a long time); I mean "straight" history. As of now, I have published seven history books, with more to come.

This is valuable to me in a number of ways. It keeps my fingers nimbly stroking the typewriter keys, and it keeps my mind exercised in new and refreshing directions. And, both least and most important, it inveigles me into new games.

No one who reads these essays can help knowing that I love to play with numbers. Well, I have discovered I love to play with turning points, too. There's the excitement of tracing down an event and saying: "At this point, at this exact point, man's history forked and man moved irrevocably into this path rather than the other."

To be sure, I'm somewhat of a fatalist and believe that "man's history" is the product of rather massive forces that will not be denied; that if a certain turning is prevented at this point, it will come about at another point eventually. Yet even so, it remains interesting to find the point where the turning *was* made.

Of course, the most fun of all is to find a brand-new turning point; one which has never (to one's knowledge) been pointed out. My own chance at finding a new turning-point is made somewhat better than it might be, in my opinion, by my advantage of being equally at home in history and in science.

By and large, historians tend to be weak in science, and they find their turning points in political and military events for the most part.

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Such water-shed years of history as 1453, 1492, 1517, 1607, 1789, 1815 and 1917 have nothing directly to do with science. Scientists, on the other hand, tend to think of science in terms rather divorced from society, and such turning-point years as 1543, 1687, 1774, 1803, 1859, 1895, 1900, and 1905 tend to have no immediate and direct connection with society.*

To me, however, a turning point of the first magnitude, one that is *equally* important both to science and to society, took place in 1752, and no one, to my knowledge, has ever made an issue of it. So, Gentle Reader, *I* will—

As far as our records go back and, presumably, much farther, men have turned to experts for protection against the vagaries of nature.

That protection they surely needed, for men have been subjected to seasons of bad hunting when they were hunters, and to seasons of sparse rainfall when they were farmers. They have fallen prey to mysterious toothaches and intestinal gripings; they have sickened and died; they have perished in storms and wars; they have fallen prey to mischance.

All the Universe seemed to conspire against poor, shivering man, and yet it was, in a way, his transcendant triumph that he felt there must be some way in which the tables could be turned. If only he had the right formula, the right mystic sign, the right lucky object, the right way of threatening or pleading—why, then, game would be plentiful, rain would be adequate, mischance would not befall, and life would be beautiful.

If he didn't believe that, then he lived in a Universe that was unrelievedly capricious and hostile, and few men, from the Neanderthal who buried his dead with the proper ceremony, to Albert Einstein, who refused to believe that God would play dice with the Universe, were willing to live in such a world.

Much of human energies in prehistory, then, and in most of historical times, too, went into the working out of the proper ritual for control of the Universe and into the effort of establishing rigid adherence to that ritual. The tribal elder, the patriarch, the shaman, the medicine man, the wizard, the magician, the seer, the priest—those who were wise because they were old, or wise because they had entry into secret teachings, or wise simply because they had the capacity to foam at the mouth and

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* *You're welcome to join the fun of turning-pointing by trying to figure out what happened in these years without looking them up, but you don't have to. The details are not relevant to the remainder of the article.*

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go into a trance—were in charge of the rituals, and it was to them that men turned for protection.

In fact, much of this remains. Verbal formulas, uttered by specialists, are relied on to bring good luck to a fishing fleet, members of which would be uneasy about leaving port without it. If we think this is but a vagary of uneducated fishermen, I might point out that the Congress of the United States would feel most uneasy about beginning its deliberations without a chaplain mimicking Biblical English in an attempt to rain down good judgement upon them from on high—a device that seems very rarely to have done the Congress much good.

It is not long since it was common to sprinkle fields with holy water to keep off the locusts, to ring churchbells to keep off earthquakes and counter the deadly effects of comets, to use united supplications according to agreed-upon wording to bring on needed rain.—In short, we have not really abandoned the attempt to control the Universe by magic.

The point is that well into the 18th Century, there was no other way to find security. Either the Universe was controlled by magic (whether through spells or through prayer) or it couldn't be controlled at all.

It might *seem* as though there *were* an alternative. What about science? By the mid-18th Century, the "Scientific Revolution" was two centuries old and had already reached its climax with Isaac Newton, three-quarters of a century before. Western Europe, and France in particular, was in the very glory of the "Age of Reason."

And yet science was not an alternative.

In fact, science in the mid-18th Century still meant nothing to men generally. There was a tiny handful of scholars and dilettantes who were interested in the new science as an intellectual game suitable for Gentlemen of high IQ, but that was all. Science was a thoroughly abstract matter that did not (and, indeed, according to many scientists in a tradition that dated back to the ancient Greeks, *should* not) involve practical matters.

Copernicus might argue that the Earth went round the Sun, rather than vice versa; Galileo might get into serious trouble over the matter; Newton might work out the tremendous mechanical structure that explained the motions of the heavenly bodies—yet how did any of that affect the farmer, the fisherman or the artisan?

To be sure there were technological advances prior to the mid-18th Century that did affect the ordinary man; sometimes even very deeply; but those advances seemed to have nothing to do with science. Inventions such as the catapult, the mariner's compass, the horseshoe, gun-

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powder, printing, were all revolutionary, but they were the product of ingenious thinking that had nothing to do with the rarefied cerebrations of the scientist (who, in the 18th Century, was called a natural philosopher, for the term "scientist" had not yet been invented).

In short, as late as the mid-18th Century, the general population not only did not consider science as an alternative to superstition, they never dreamed that science could have any application at all to ordinary life.

It was in 1752, exactly, that that began to change; and it was in connection with the lightning that the change began.

Of all the fatal manifestations of nature, the most personal one, the one which is most clearly an overwhelming attack of a divine being against an individual man, is the lightning-bolt.

War, disease, and famine are all wholesale forms of destruction. Even if, to the true believers, these misfortunes are all the punishment of sin, they are at least punishment on a mass scale. Not you alone, but all your friends and neighbors suffer the ravages of a conquering army, the agony of the Black Death, the famishing that follows drought-killed grainfields. Your sin is drowned and therefore diminished in the mighty sin of the village, the region, the nation.

The man who is struck by lightning, however, is a personal sinner, for his neighbors are spared and are not even singed. The victim is selected, singled out. He is even more a visible mark of a god's displeasure than the man who dies of a sudden apoplectic stroke. In the latter case, the cause is invisible and may be anything, but in the former there can be no doubt. The divine displeasure is blazoned forth, and there is thus a kind of superlative disgrace to the lightning-stroke that goes beyond death and lends an added dimension of shame and horror to the thought of being its victim.

Naturally, lightning is closely connected with the divine in our best known myths. To the Greeks, it was Zeus who hurled the lightning, and to the Norse, the lightning was Thor's hammer. If you care to turn to the 18th Psalm (verse 14 in particular), you will find that the Biblical God also hurls lightning. Or as Julia Ward Howe says in her "Battle Hymn of the Republic"—"He hath loosed the fateful lightning of His terrible, swift sword . . ."

And yet, if the lightning stroke were obviously the wrathful weapon of a supernatural being, there were some difficult-to-explain consequences.

As it happens, high objects are more frequently struck by lightning

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than low objects are. As it also happens, the highest man-made objects in the small European towns of early modern times were the steeples of the village church. It followed, embarrassingly enough, that the most frequent target of the lightning bolt, then, was the church itself.

I have read that over a thirty-three year period in 18th Century Germany, no less than four hundred church towers were damaged by lightning. What's more, since churchbells were often rung during thunderstorms in an attempt to avert the wrath of the Lord, the bell-ringers were in unusual danger, and in that same thirty-three-year period, one hundred twenty of them were killed.

Yet none of this seemed to shake the preconceived notion that connected lightning with sin and punishment. —Until science took a hand.

In the mid-18th Century, scientists were fascinated by the Leyden jar. Without going into detail, this was a device which enabled one to build up a sizable electric charge; one which, on discharge, could sometimes knock a man down. The charge on a Leyden jar could be built up to the point where it might discharge across a small air gap, and when that happened, there was a brief spark and a distinct crackling sound.

It must have occurred to a number of scholars that the discharge of a Leyden jar seemed to involve a tiny lightning bolt with an accompanying pygmyish roll of thunder. Or, in reverse, it must have occurred to a number of them that in a thunderstorm, earth and sky played the role of a gigantic Leyden jar and that the massive lightning stroke and the rolling thunders were but the spark-and-crackle on a huge scale.

But thinking it and demonstrating it were two different things. The man who demonstrated it was our own Benjamin Franklin, the "Renaissance Man" of the American colonies.

In June, 1752, Franklin prepared a kite and tied a pointed metal rod to its wooden framework. He attached a length of twine to the rod and connected the other end to the cord that held the kite. At the lower end of the cord, he attached an electrical conductor in the shape of an iron key.

The idea was that if an electric charge built up in the clouds, it would be conducted down the pointed rod and the rain-wet cord to the iron key. Franklin was no fool; he recognized that it might also be conducted down to himself. He therefore tied a non-conducting silk thread to the kite-cord, and held that silk thread, rather than the kite-cord itself. What's more, he remained under a shed so that he and the silk thread would stay dry. He was thus effectively insulated from the lightning.

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The strong wind kept the kite aloft, and the stormclouds gathered. Eventually, the kite vanished into one of the clouds, and Franklin noted that the fibers of the kite cord were standing apart. He was certain that an electric charge was present.

With great courage (and this was the riskiest part of the experiment), Franklin brought his knuckle near the key. A spark leaped across the gap from key to knuckle. Franklin heard the crackle and felt the tingle. It was the same spark, crackle and tingle he had experienced a hundred times with Leyden jars. Franklin then took the next step. He had brought with him an uncharged Leyden jar. He brought it to the key and charged it with electricity from the heavens. When he had done so, he found that this electricity behaved exactly as did ordinary earthly electricity produced by ordinary earthly means.

Franklin had demonstrated that lightning was an electrical discharge, different from that of the Leyden jar only in being immensely larger.

This meant that the rules that applied to the Leyden jar discharge would also apply to the lightning discharge.

Franklin had noted, for instance, that an electrical discharge took place more readily and quietly through a fine point than through a blunt projection. If a needle were attached to a Leyden jar, the charge leaked quietly through the needle point so readily that the jar could never be made to spark and crackle.

Well, then— If a sharp metal rod were placed at the top of some structure and if that were properly grounded, any electric charge accumulating on the structure during a thunderstorm would be quietly discharged and the chances of its building up to the catastrophic loosing of a lightning bolt was greatly diminished.

Franklin advanced the notion of this "lightning rod" in the 1753 edition of "Poor Richard's Almanac." The notion was so simple, the principle so clear, the investment in time and material so minute, the nature of the possible relief so great, that lightning rods began to rise over buildings in Philadelphia by the hundred almost at once, then in New York and Boston, and soon even in Europe.

And it worked! Where the lightning-rods rose, the lightning-stroke ceased. For the first time in the history of mankind, one of the scourges of the Universe had been beaten, not by magic and spells and prayer, not by an attempt to subvert the laws of nature—but by science, by an understanding of the laws of nature and by intelligent cooperation with them.

What's more, the lightning-rod was a device that was important to every man. It was not a scholar's toy; it was a life-saver for every me-

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chanic's house and for every farmer's barn. It was not a distant theory, it was a down-to-earth fact. Most of all, it was the product not of an ingenious tinkerer, but of a logical working out of scientific observations. It was clearly a product of science.

Naturally, the forces of superstition did not give in without a struggle. For one thing, they made the instant point that since the lightning-bolt was God's vengeance, it was the height of impiety to try to ward it off.

This, however, was easy to counter. If the lightning was God's artillery and if it could be countered by a piece of iron, then God's powers were puny indeed, and no minister dared imply that they were. Furthermore, the rain was also sent by God, and if it was improper to use lightning rods, it was also improper to use umbrellas or, indeed, to use overcoats to ward off God's wintry winds.

The great Lisbon earthquake of 1755 was a temporary source of exultation for the ministers in the churches of Boston. There were those who pointed out that, in his just wrath against the citizens of Boston, God had, with a mighty hand, destroyed the city of Lisbon. But this merely succeeded in giving the parishioners a poor notion of the accuracy of the divine aim.

The chief resistance, however, was negative. There was an embarrassed reluctance about putting up lightning rods on churches. It seemed to betray a lack of confidence in God, or worse still, a fullness of confidence in science that would seem to countenance atheism.

But the results of refusing to put up lightning rods proved insupportable. The church steeples remained the highest objects in town, and they continued to be hit. It became all too noticeable to all men that the town church, unprotected by lightning rods, was hit, while the town brothel, if protected by lightning rods, was not.

One by one, and most reluctantly, the lightning rods went up even over the churches. It became quite noticeable, then, that a particular church whose steeple had been damaged over and over, would stop having any of this kind of trouble once the lightning rod went up.

According to one story I've read, the crowning incident took place in the Italian city of Brescia. The church of San Nazaro in that city was unprotected by lightning rods, but so confident was the population in its sanctity that they stored a hundred tons of gunpowder in its vaults, considering those vaults to be the safest possible place for it.

But then, in 1767, the church was struck by lightning, and the gunpowder went up in a gigantic explosion that destroyed one sixth of the city and killed three thousand people.

That was too much. The lightning-rod had won, and superstition

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surrendered. Every lightning rod on a church was evidence of the victory and of the surrender, and no one could be so blind as not to see that evidence. It was plain to anyone who would devote any thought to the problem that the proper road to God was not through the self-will of man-made magical formulas but through the humble exploration of the laws governing the Universe.

Although the victory over lightning was a minor one in a way, for the number killed by lightning in the course of a year is minute compared to the number killed by famine, war or disease, it was crucial. From that moment on, the forces of superstition* could fight only rear-guard actions and never won a major battle.

Here's one example. In the 1840's, the first really effective anesthetics were introduced, and the possibility arose that pain might be abolished as a necessary accompaniment of surgery and that hospitals might cease to be the most exquisitely-organized torture chambers in the history of man. In particular, anesthesia might be used to ease the pains of childbirth.

In 1847, a Scottish physician, James Young Simpson, began to use anesthesia for women in labor, and at once the holy men mounted their rostrums and began their denunciations.

From pulpit after pulpit, there thundered forth a reminder of the curse visited upon Eve by God, after she had eaten of the fruit of the tree of the knowledge of good and evil. Male ministers, personally safe from the pain and deadly danger of child-bearing, intoned: "Unto the woman he said, I will greatly multiply thy sorrow and thy conception; in sorrow thou shalt bring forth children . . ." (Genesis 3:16).

The usual story is that these apostles' of mothers' anguish, these men who worshipped a God who they viewed as willing to see hundreds of millions of agonized childbirths in each generation, when the means were at hand to ease the pain, were defeated by Simpson himself through a counter-quotation from the Bible.

The first "childbirth" recorded in the Bible was that of Eve herself, for she was born of Adam's rib. And how did that childbirth come about? It is written in Genesis 2:21, "And the Lord God caused a deep sleep to fall upon Adam, and he slept: and he took one of his ribs, and closed up the flesh instead thereof."

* *I am saying superstition,* not *religion. The ethical and moral side of religion is not involved in the fight against the lightning rod or against any other scientific finding. Only traditional superstitious beliefs are in the fight, and it may well be argued that these are even more harmful to real religion than they are to science and rationality.*

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In short, said Simpson, God had used anesthesia.

Actually, I am not impressed with the counter-quotation. Eve was formed while Adam was still in the Garden and before he had eaten of the fruit, and therefore, before sin had entered the world. It was only after the fruit had been eaten, that sin and pain entered the world. Simpson's argument was, therefore, worthless.

It was just as well it was, too, for to defeat superstition by superstition is useless. What really defeated the forces of mythology in this case was a revolt by women. They insisted on anesthesia and refused to go along with a curse that applied to them but not to the divines who revered it. Queen Victoria herself accepted anesthesia at her next accouchement and that settled *that*.

Then came 1859 and Charles Robert Darwin's "Origin of Species." This time the forces of superstition rallied for the greatest battle of all, and the preponderance of power seemed on their side. The field of battle was ideally suited to superstition, and now, surely, science would be defeated.

The target under attack was the theory of evolution by natural selection, a theory that struck at the very heart and core of human vanity.

It was not a verifiable statement to the effect that a piece of metal would protect man against lightning or that a bit of vapor would protect him against pain that was being considered this time. It was, rather, a thoroughly abstract statement that was dependent upon subtle and hard-to-understand evidence and that made it seem that man was an animal much like other animals and had arisen from ancestors that were ape-like in nature.

Men might fight on the side of science and against superstition in order to be protected from lightning and from pain, for they had much to gain in doing so. Surely they would not do so merely in order to be told they were apes, when the opposition told them they were made "in the image of God."

The prominent Conservative Member of Parliament, Benjamin Disraeli (later to be Prime Minister), expressed the matter so succinctly in 1864 as to add a phrase to the English language. He said, "Is man an ape or an angel? Now I am on the side of the angels."

Who would not be?

For once, it seemed, science would have to lose, for the public simply was not on its side.

Yet there were men to face down the angry multitude, and one of them was Thomas Henry Huxley, a largely self-educated English biolo-

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gist. He had been against evolution to start with, but after reading "Origin of Species," he cried out, "Now why didn't *I* think of that?" and took to the lecture platform as "Darwin's Bulldog."

In 1860, at a meeting of the British Association for the Advancement of Science, at Oxford, the Bishop of Oxford undertook to "smash Darwin" in public debate. He was Samuel Wilberforce, an accomplished orator, with so unctuous a voice that he was universally known as "Soapy Sam."

Wilberforce rose to speak, and for half an hour, he held an overflow crowd of 700 in delighted thrall, while Huxley sombrely waited his turn. And as the Bishop approached the end of his speech, he turned toward Huxley and, muting his organ tones to sugar-sweet mockery, begged leave to ask his honorable opponent whether it was through his grandmother or his grandfather that he claimed descent from an ape.

At that, Huxley muttered, "The Lord has delivered him into my hands." He rose, faced the audience, and gravely and patiently waited for the laughter to die down.

He then said: "If then, the question is put to me, would I rather have a miserable ape for a grandfather, or a man highly endowed by nature and possessing great means and influence, and yet who employs those faculties and that influence for the mere purpose of introducing ridicule into a grave scientific discussion—I unhesitatingly affirm my preference for the ape."

Few debates have ever resulted in so devastating a biter-bit smash, and the last offensive against science by superstition was condemned to defeat from that moment.

Huxley had made it clear that it was science, now, that spoke with the thunders of Sinai, and it was the older orthodoxy that, in the fashion of Wilberforce's unfortunate remark, was capering about the Golden Calf of man-made myth.

The fight did not end, to be sure. Disraeli was still to make his own unctuous remark, and pulpits were to thunder for decades. I am still, even in this very year in which we now live, frequently made a target by sincere members of the Jehovah's Witnesses sect, who send me publication after publication designed to disprove the theory of evolution.

But the real battle is over. There may be skulking skirmishes in the backwoods, and it may even be incumbent upon the astronauts of Apollo 8 to stumble their way haltingly through the first few verses of Genesis 1 as they circle the Moon (in an absolute masterpiece of incongruity), but no man of stature from outside science arises to denounce science.

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When science threatens mankind with danger, as in the case of the atom bomb, or bacteriological warfare, or environmental pollution; or when it merely wastes effort and resources as (a few maintain) in the case of the space program; the warnings and criticisms are mounted from within science.

Science is the secular religion of today, and scientists are, in a very literal sense, the new priesthood. —And it all began when Ben Franklin flew his kite in a thunderstorm in the crucial year of 1752.

LAST CHANCE TO SUBSCRIBE AT PRESENT LOW RATES

Dear Reader:

Beginning with the July 1969 issue, the price of F&SF will be increased to 60¢. New subscription rates will be $7.00 for one year; $12.00 for two years; $17.00 for three years. We have not had a price increase in five years, but rapidly rising publication costs (e.g., a more than 33% increase in the cost of printing, along with increases in the cost of paper, postage and handling) have necessitated the price change.

Some good news with the bad:

First, we intend to try even harder to bring you the best in sf and fantasy entertainment. Two specific examples are: 1) **The Special Fritz Leiber Issue** scheduled for next month, containing a new 20,000 word novella by Mr. Leiber entitled SHIP OF SHADOWS and an essay on Leiber by **Judith Merril** that is full of personal and critical insights into the man and his work: it's fascinating reading. The special issue will also contain a bibliography of Leiber's work. Fiction by other writers in the July issue will include a shattering new story by Hugo award winner **Harlan Ellison.** 2) A **Special 20th Anniversary Issue,** scheduled for October 1969, which will contain brand-new stories by many of the top names in science fiction. **Isaac Asimov's** first new novelet in eleven years is one of the extraordinary items planned for the anniversary issue; we'll be bringing you further news next month.

The second piece of good news is that **there is still time to subscribe at the present low rates.** New subscription rates go into effect with the next issue, but the coupon on page 52 gives you a chance to subscribe at the old rates: ($5.00 for one year; $9.00 for two; $12.50 for three). The savings are substantial: for instance, the 3 year rate of $12.50 saves you $9.10 over the new single copy price. But please hurry; this offer is good only until June 15, 1969.

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This amusing tale about a sailing vacation and a group of most unusual charter guests has an authentic ring that is reinforced by the background of the author. "Graduated from the California Maritime Academy in '58 and got my 3rd mate's ticket working on the San Francisco-Alaska run on Standard Oil tankers. In 1963 I had a boat built in Copenhagen and sailed it across to the West Indies . . . got involved in the charter business in Antigua." Mr. Lucas recently gave up chartering and moved ashore. This is his first published story, and it offers so much salty and refreshing entertainment that we're glad its author is closer to a typewriter which won't slide with the rough weather.

REPEAT BUSINESS

by Jon Lucas

IT'S ALL VERY WELL FOR YOU to sit there guzzling beer and looking sceptical, but I can tell you, they were the weirdest group we've had yet. I mean at first, of course, they were just another group of charter guests . . . the sailing instructions were maybe a little funny, but no more than some others. I've had vegetarians, diabetics—even an orthodox Jewish charter once, so Mary's used to coping with special diets, and, like everybody, we've had people who seemed to live off nothing but booze. All it said in this one was that they wanted to be served their meals by themselves and left alone and unobserved; no special preferences.

I figured they were maybe just snobbish, which suited me OK, as I've usually had enough of the guests by dinnertime and would just as soon not eat with them anyway. Mary leaned toward the theory that they were some kind of religious bugs and painted each other with mashed potatoes or worshipped the asparagus or something. I've been in the business too long to rule out the possibility, but mine seemed more likely.

The rest of it was standard: time of arrival Antigua airport,

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names of the two couples, flight reservation numbers for their departure ten days hence in Martinique. Under personal data it said "no previous sailing experience" so at least they wouldn't be full of bright suggestions. Josie had scrawled across the bottom in red pencil "These people are TRAVEL AGENTS!!! so give them a good time."

That one made me wince a little. I don't have to tell *you* about travel agents. As soon as they go on vacation themselves, it's everything for nothing and twice as much service expected as anyone else, just on the theory that they might send some business your way. At any rate, Josie believed in it, and she's one of the best brokers in the business, so who can argue? Well . . .hmm? Yeah, I guess I've got time for another one . . . my people aren't due for a couple of hours.

Anyway, Mary and I drove up to the airport to meet the flight, which was the Miami-San Juan one, and stood there playing the "spot your charterer" game; you know, where you pick out the worst-looking dope addicts or perverts as they come off the plane and, sure enough, they turn out to be your pigeons. Seriously, though, they were easy enough to spot: two couples in their late forties with "successful upper-income travel agent" written all over them. I approached them as they cleared immigration, and the taller one held out his hand saying, with a "hard-sell" grin that must have sold a lot of world tours, "Howdy, Skipper. You look just like your picture in the brochure. And this lovely little lady must be Mrs. Thurman. Mighty glad to meet both of you." Well, we shook hands all around and . . . look, Harry, get off my back about that picture, will you? I've never worn a yachting cap before or since as you well know, and I seem to recall a pretty salty picture in your own brochure with you clutching the wheel in an iron grip while the dock you were tied to is plainly visible in the background. Yeah, well Josie talked me into mine too.

Anyhow, we were introduced around; I piled them into a taxi and we drove down to English Harbour. The *Victorious* was all provisioned: ice, fuel, water aboard, the works, so when they were all aboard, I cast off and we motored over to Freeman's Bay to spend the rest of the afternoon at anchor, so they could get a swim and all. The shorter one—Williamson I think he said his name was—I can never remember their names when a charter's over . . . anyhow, Williamson watched the whole thing carefully, taking notes in a little pocket diary and asking a lot of questions. I figured he was maybe writing an article for some travel mag. Then he says, "But I understood this was a sailing ves-

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sel, skipper. Do we have to have the engine running to go places?"

I explained about how we only use it for getting in and out of tight spots where it's not convenient to sail out, and for motoring through calms. "Then you could do the entire trip without using the engine at all?" I assured him we could, remembering several occasions when the main engine had broken down and I had to, but of course I didn't mention *that.*

This seemed to delight them beyond all proportion, and when we were at anchor they didn't show any particular interest in swimming but kept me busy answering questions about the rig, how it worked and why, and so forth. Well, you know the *Victorious.* A square topsail schooner is about as complicated a rig as you're likely to find on a fifty foot boat. That's what creates all that romance and character the agent brays about, of course, but it kept me going all afternoon while they drank in every word like it was the Gospel, exchanging pleased little glances all the while. I mean, most people you get, they want to know where's the icebucket and the bar, and the boat could be pulled by dolphins for all they care.

While I was showing them how the topsail worked on a roller reefing system, the crew came up with a pitcher of rum punch and some canapes that Mary had whipped up. They all kind of exchanged glances and the shorter one, Williamson's wife I guess, spoke up saying they wouldn't have anything to drink . . . just plain water with no ice. Well, that was a switch; lushes we've had aplenty but these were the first dyed-in-the-wool teetotalers.

Clarence went for the water, and I poured myself a healthy slug of the punch to see if they objected to *me* drinking (they didn't) and passed the canapes around, each taking one. When the water came, the taller one put a little tablet in each glass which turned it sort of yellow and fizzy, and they drank it off while I told them sea stories. After a minute I happened to look aft and saw four canapes floating just off the stern. We were in for trouble if Mary saw that, but she was busy putting the roast in, so I shrugged and demolished most of the plate myself . . . especially the lobster ones. Normally you've got to be fast on your feet to get *any.*

At this point I usually get out the general chart and go over the route with them, telling them what's up in each harbour we're going to visit, but they didn't seem too interested in where they were going, and the talk got around to the charter business instead. They were dead curious about how the whole system worked, how much was deposited by the clients, how the commissions were handled, how we arranged our laundry . . . provisioning . . . fuel, the whole

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bit. Well, being travel agents and all, it was to be expected they would take an interest, but these people really went into it. Most of them just want to know when we're going to get to an island with an air-conditioned bar.

To make a long story short, we sat and gabbed until about seven thirty, when Mary announced dinner. I know you say people really just want home cooking and plain food, but you're a bachelor operation, and it's a little different on your boat. Anyhow, we always try to set a fancy table, especially the first night, and the saloon really looked nice: red placemats and napkins, amber wine glasses with an opened bottle of Cotes du Rhone nearby, French bread, tossed salad with endives, and a crown roast of pork in the center, garnished with new potatoes, *petits pois,* and miniature carrots. They exclaimed over everything and praised Mary lavishly, saying things to each other like: "This is just ideal, just what is needed. This will really go over! If we can sell a package like this, the others'll be pink with envy . . ." and so forth.

Well, its nice to know your efforts are appreciated, and these were the first people who acted as if they might actually steer us some business, so we were willing to put up with any eccentricities they might have and, as per instructions, we closed the doors to the saloon and left them to it while we had ours up in the cockpit and Clarence ate in the forepeak. I've had some civil rights types point the finger at me from time to time about never eating with the crew, but, in fact, the choice lies with him. Like many Antiguans, he seems to have been born with a transistor radio permanently attached to his person, usually tuned to one of the more raucous calypso stations. When confronted with the Choice, several years ago, he politely and regretfully made it clear that he preferred the company of his transistor to that of his skipper, and so it remains.

About the time we were having our coffee, they came chattering up out of the saloon, full of compliments on Mary's cooking. "Tell me," asked Mrs. Williamson, "do you experiment much with new and unusual dishes? I mean do you like to try exotic ingredients and new methods and so forth?" Mary explained that, with varying tastes, she generally stuck to a number of standard and proven dishes, but that by personal inclination she was all for trying the new and different if people indicated that was what they wanted. Before it could develop into a recipe-swapping session, I pointed out that we had to make Guadaloupe next day, which meant an early start, and that everyone had better get some shut eye.

They were soon off to their cab-

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ins and I went below, noting that they had certainly done justice to the dinner. The crown roast was stripped to the bone and all the salad and bread was gone. I picked up the empty wine bottle, hoping in vain there might be a swallow or two left in the bottom—it was much better stuff than we could afford for ourselves—and noticed something funny. The wine glasses were still sparkling clean . . . unused. I tried to conjure up a vision of these affluent Madison Avenue types passing the bottle around the table and taking hearty swigs, but somehow it didn't fit. I was thinking about this when Mary came in from her nightly shutting-off-the lights tour and said, with a wry expression, "Head's blocked."

"Oh Lord," I groaned, "That didn't take them long." She sighed sympathetically and disappeared into the galley to help Clarence with the washing up. I had given them, as always, a thorough course on the use of the Marine Toilet, MK7, Hand Operated, including dire warnings about putting things therein that didn't belong there, such as hanks of hair, contents of ashtrays and what the girls coyly refer to as STs. Every group manages to get it blocked at least once, but not usually on the first night, with my lecture still ringing in their ears.

There was nothing for it but to do it now, because someone was bound to use it during the night, and we had to be underway early in the morning anyhow, so I went for my wrenches. Half an hour later I was sitting cross-legged on the floor of the head looking at: 1. three pieces of roast pork in mint condition, 2. a piece of French bread, rather soggy and the worse for wear, 3. a generous helping of tossed green salad, ditto. All of these objects were stained a pinkish red that bore a distinct resemblance to Cotes du Rhone.

I wrapped everything in a paper towel, put the plumbing back together and sat down to think. Two possibilities suggested themselves: 1. They ate what they wanted and flushed the rest away. I couldn't think of any reason for that unless they were afraid of being served leftovers. 2. They didn't eat any of it but wanted us to think they did. It was possible that they didn't like it but were too polite to complain (if so, they were the first I'd come acoss) and wanted to gloss it over, but it seemed a pretty strange procedure all the same, not to mention being a hell of a waste of good food. Somehow their stipulation that they must dine alone and unobserved made the whole thing seem a bit premeditated. I mean, they couldn't know in advance they weren't going to like it . . . it must have been planned this way all along, in which case what did they live on? I couldn't find an answer to that one, unless one of them

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had a delicatessen in his briefcase, and I finally went to bed without getting any further forward. The contents of the paper towel went over the side: I thought it wisest that Mary shouldn't know the fate of her Chef-D'oeuvre just yet . . . she tends to get a bit emotional about these things.

Next morning, what with getting under way and all, the whole thing didn't seem so important, and I didn't really recall it until Mary mentioned that they didn't have any breakfast. That wasn't unusual in itself, though most people at least take coffee, and she didn't appear to think anything about it, but I resolved to have a word with one of the men when we got out to sea. I mean, I didn't care if they ate or not—in fact it saved us money if they didn't—but I would have preferred not to have to unblock the head every night, and it seemed a bit ridiculous for Mary to break her back cooking for the fish. Also, I admit, I was getting pretty curious.

We got the anchor up and headed for the entrance, raising sail as we went. The wind was easterly about force four and perfect for a reach all the way to Anse des Hayes, so I set the jib, stays'l, fore and main. By the time we cleared the entrance we were making a good seven knots and heeling a bit, so I cut the engine and we were off.

They oo'd and ahh'd about the beauty of it all, the swift silent sensation of power, the hiss of the water and the moan of the sails and all the usual guff, and I have to admit it was a beautiful sailing day, straight out of the brochure. Well, what with them being merry as grigs and full of enthusiasm, I kept putting off my little chat, and finally it was about 12:30 and we were closing the harbour. The shorter one, Williamson, asked if we could go in under sail, and, as we had plenty of time, I obligingly tacked in and finally came up into the wind and dropped the hook about 100 yards off the beach. This seemed to impress them greatly, and they exchanged numerous remarks on the theme of "Incredible technique . . . amazing utilization of natural forces, archaic but sophisticated, without parallel in any of *our* cultures" and more suchlike that you'd expect of Madison Avenue types.

It was getting about lunchtime, and that brought my mind back to the subject. I was just nerving myself to mention it to Stafford when they all exchanged one of those undercover glances that I'd come to notice in them and seemed to come to some kind of unspoken agreement. Clarence had just rigged the awning and gone forward, so, as we sat back in the shade, Stafford spoke: "Captain Thurman, we've been thinking it over and we'd like to discuss a business proposition with you."

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Here it comes, I thought; they want something knocked off the fee because they all live on dried raisins or something.

"We are travel agents, as you know, and, as a matter of fact, we represent a resort area which is presently in the development stage. I can't tell you how much we've enjoyed this trip so far, and we feel certain that our clients would go wild over this kind of thing, especially as it fits in so well with the principle of our resort." Mary drifted up about this point and sat down to listen. "You see, it's a kind of—ahh . . . Walden Pond sort of place, where clients from all over the—ahh . . . area can get away from the pressures of modern, mechanized life. The gimmick," he said with a deprecatory smile "is that everything is operated by simple natural forces . . . so different from what most of them are used to. Only candles are used for lighting and so forth. This sort of thing is very big just now in the . . . fashionable world."

I thought for a minute. "Where do I fit into all this?"

"Why you . . . and one or two other boats perhaps, would be a sort of private charter fleet."

"Where is this place?" I asked.

"I'm afraid we have to keep that in confidence just at the moment . . . it's quite a distance away, but we can make all the arrangements if you give us your consent."

"Well, I don't know," I said. "I suppose it means leaving the Windward and Leeward Islands altogether." He nodded. "I mean, I've got my reputation built up here . . . all the brokers know me and . . . and what about this no electricity business? Does that mean we'd have to do everything under sail, no main engine, no electric lights, no radio?"

"I'm afraid so. Many of our clients find proximity to electrical forces—uh . . . disturbing, while others are sensitive to . . . well, anyhow, we've worked out a compromise that keeps everybody happy."

This sounded more and more like some colony of nuts in Southern California and a very dubious proposition. I shook my head.

He said gently, "But, we haven't discussed terms yet."

"Well, Mr. Stafford, as you well know I get $950.00 a week for charter here, and I can do about twenty weeks a year, average. After overhead, commissions, wages, etc., I get to keep about $8,000.00 a year out of that. That's enough to keep us happy; especially as we're living rent free and all. In order to put up with the conditions you describe and lose the goodwill I've built, I'd have to have a guarantee of substantially more than that."

He smiled broadly. "Capt. Thurman, I think you will find our organization more than generous. We were thinking of a one-year contract, the boat to be re-

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turned to this area at our expense. We meet the running expenses while you're working for us, and at the end of the year you get exactly one million dollars in gold."

"A what?" gasped Mary.

"I think the man said a million," I said sarcastically. "Mr. Stafford, I don't know what kind of game you're playing, but I assure you that if you were serious, you would have my full consent to take this boat and myself anywhere at all. However . . ."

And that's when everything went black . . . yeah, look, let *me* buy it this time. No, I haven't had too many . . . wait'll you hear the rest. Go on, order what you want; my people aren't due for an hour, and you don't know when yours are coming yet, so . . . right. Anyhow, as I said, it went black in the sense that there was no sun, no fishing village, no cliffs, water, or anything, but I could still see the boat and the people on it. That was when I discovered I couldn't move or speak, though I could still hear, sort of.

Stafford was saying to one of the others, "You heard it. Full legal consent and all recorded."

One of the others—I couldn't be sure which because I couldn't move my eyes—said, "I hope the legal boys buy it. It wasn't exactly according to Hoyle."

"Look," snapped Stafford, "it's legal enough. We're prepared to keep our side of the bargain and if he didn't know a standard galactic year is 23.8 Earth years, that's a question of caveat emptor. Remember how we got the gliders of Mir? Well, those guys raised the roof and we had less on 'em than this, but the stellar council upheld us. Thirty-six life forms and not a dissenting vote. I tell you, those government bigwigs are going to be our best clients!" He struck an exaggerated pose. "TELBA! The Paradise Planet of Prehistoric Pleasures. All compatible life forms welcome. Ride the ski-liners of Nirma, float with the living balloons of Kassindrina, soar on the chalet gliders of Mir and now: sail on the wind-driven sailing ships of Earth, the only known examples in the universe!"

"So, I've read the brochure already," said the other voice. "In fact I helped write it. I only hope Mrs. Thurman is adaptable. I see where you've listed Fused Potash Rigel, with Hydrofluoric Sauce, as one of her specialties. Even the Rigellian chef at the lodge has trouble with that one . . . says it falls or catalyzes or something in Telba's atmosphere."

"She'll cope," said Stafford impatiently, "she'll cope. Look what she did with that dead animal. If carbon wasn't poison, I'd have been tempted."

"What about Esthurians and Galonians," asked the worrywart.

Yeah, what about *them*, I thought, but still couldn't speak.

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"Not to worry," assured Stafford. "Anybody that's too big to fit the cabin can sleep on deck and absorb their meals in the cockpit. It's all part of the adventure. I ran a compatibility check, and Suvians can be safely injected into the skipper's bloodstream, so we can double them up with other groups at a double fee. Now let's beam everything out of here before someone notices the hole in the water."

Well, they took one of the wives apart . . . yeah, I'm telling you . . . anyhow they took her apart, set up the pieces near the binnacle and made some fine adjustments. "OK, go down and cut all the electrical power . . . everything," said Stafford. "There's a master cutout on the distribution board in the saloon. I saw it yesterday on that tour. Is that it? Right. OK, I've set the coordinates about one hundred yards off the new yacht-club dock. The sports director is holding it open for us. Man, will I be glad to climb out of this body and into something cool. Well, here goes." He twisted something and the darkness turned a little darker; then something seemed to go wrong. "What the hell?" said the voice I couldn't see.

"I don't know," muttered Stafford, peering at some dial. "There must be some circuit on somewhere . . . it's throwing us out of resonance."

"But that's impossible! All the boat's circuits are disconnected at source. I checked. And anyhow I can feel myself starting to go."

"We're going, kid, but the boat isn't. I hope you know how to swim!" and they winked out of sight just as the sun, water, village, cliffs, etc., winked on again, and there we were, swinging at anchor with only the sound of Clarence's transistor radio floating back from his snoozing form.

"Clarence's radio!" We both shouted at once. Everyone had gotten so used to the sound that they no longer realized it was on. He woke with a start, and, seeing us bearing down on him to pump his hand, dropped down the galley hatch and started peeling potatoes six to the dozen.

"Only for three, Clarence," I shouted. "Our guests had a change in travel plans."

Well, the charter fee was paid, so we sailed down to Martinique overnight and had a nice week off in Fort de France. I cabled Josie that if *that* group wanted another cruise, I was booked up solid. That kind of repeat business we don't need. No, I don't think I'd better, my people are about due to show up. Oh! Here, I clean forgot. Josie gave me this envelope for you. Must be the directions for the group you've got coming tonight. Always interesting to see who they're going to be, isn't it?

Harry . . . what's wrong? Harry! Oh, waiter . . . could you bring me a glass of water for my friend?

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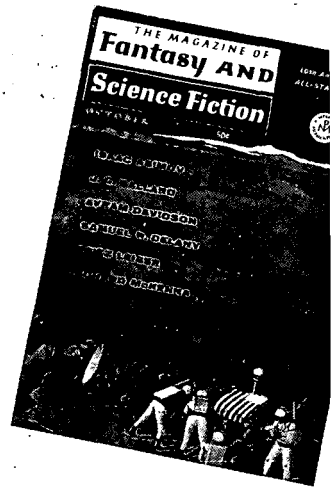
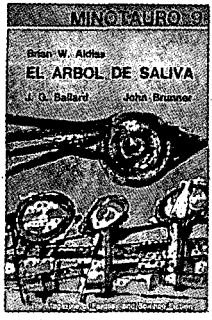


F&SF's readers are both young (84% under 45) and educated (62% have attended college). When they want relaxation or stimulation in reading, they turn to the best works of imagination and to FANTASY AND SCIENCE FICTION. "F&SF regularly supplies the finest the field has to offer in the way of short fiction"—*Clifton Fadiman.* Compelling fiction, along with informative and stimulating features on *Books* (Judith Merril) and *Science* (Isaac Asimov), have earned F&SF its reputation as tops in the field.



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